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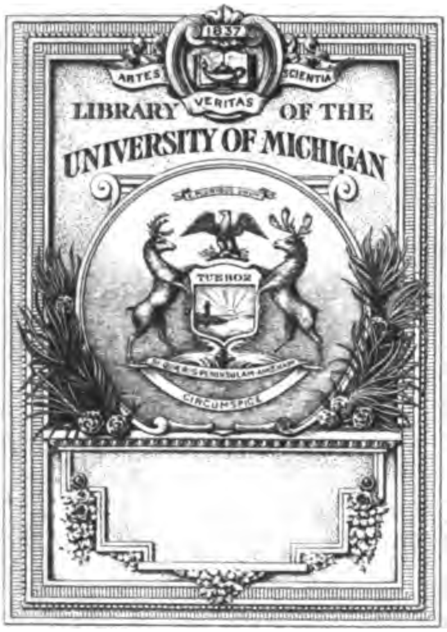

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THE

# AMERICAN

# AGRICULTURIST;

DESIGNED

TO IMPROVE THE PLANTER, THE FARMER, THE STOCK-BREEDER,
AND THE HORTICULTURIST.

AGRICULTURE IS THE MOST HEALTHY, THE MOST USEFUL, AND THE
MOST NOBLE EMPLOYMENT OF MAN.—*Washington.*

A. B. ALLEN, EDITOR.

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# AMERICAN AGRICULTURIST.

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## TO SUBSCRIBERS.

We send this number of our paper to all subscribers to the last volume, hoping that they may find it agreeable to renew their subscriptions, and continue with us another year. Such as do not wish the Agriculturist continued, will please return this number *immediatly, and unmutilated,* with the name and Post-office address on the *wrapper* (not on the paper), when it will be stopped. Recollect that the subscription is cash in advance, and we wish expressly that none be forwarded by Post-office drafts, it is so troublesome to collect them. The money may, in all cases, be enclosed in a letter, and sent direct to the publishers, at their risk. The terms remain unaltered. Single copies, One Dollar; three copies for Two Dollars; eight copies for Five Dollars. Agricultural Societies, Clubs, and agents, supplied on the most liberal terms. The work being stereotyped, back volumes, handsomely and uniformly bound, can at all times be had. These now form one of the best Encyclopædias on American agriculture to be found, and ought to be in every library. No money can be better spent than in devoting it to the purchase of this excellent work. The farmer who does not possess it is without his best friend. Many refuse to take an agricultural paper on the ground that they cannot afford it, when, at the same time, they annually spend dollars in the most useless or worthless things imaginable. We have often heard it said, that a single article in our paper has saved the reader five or ten times its subscription price. How beneficial, then, must it be in the aggregate to the farmers of the country! England and other foreign countries are making rapid strides in the arts of the husbandman, and they owe the advantages of their progress mainly to their agricultural periodicals

## TO EXCHANGE PAPERS.

Our exchanges will please do us the favor of noticing the commencement of a new volume, with its character and terms; and also, if convenient, copy these as they appear on the last page. We shall be obliged if editors and post-masters generally, will act as agents, or get some responsible person to do so. Our paper does not conflict at all with theirs, and by exerting their influence in our behalf, they may greatly subserve the best interests of the country, and assist in ameliorating the condition of the farmer. By lightening his toil, and teaching him how to grow a larger product per acre, with the same capital and labor bestowed, millions are added to the productive wealth of the country, society is advanced, and comfort and happiness frequently produced, where none now exist. We trust that none will be found slack in their efforts, and that renewed exertions will be made by the friends of agriculture to carry this journal to every farmer's door in the land.

## TO THE LEGISLATURE.

At the last session of the Legislature, a bill was introduced and attempted to be passed in the House, directing every County Superintendent of Common Schools in the State, to subscribe for as many copies of the Albany Cultivator as there were School Districts in their counties—the subscription and postage to be paid by the State, out of the School fund. This bill would have given upwards of $12,000 to a *single* agricultural paper! at the same time that there were FOUR others in the State equally meritorious—equally valuable to the farming community—and equally deserving public patronage. We are of opinion that the Legislature could not pass a wiser and more beneficial act than such as should disseminate agricultural journa among the Common Schools of the State; but we hope if anything of the kind is attempted at the present Session, for ONE *particular* journal, it may meet with the marked rebuff of last year. We are opposed to exclusive privileges—they are contrary to the genius of our Republic. We advocate the principle that all who are deserving shall share equally the bounty of the State; and we trust that this principle will be kept in view by the highly intelligent and honorable body composing the Legislature this Session.

## THE ALPACA.

We wish we possessed one-tenth the wealth of many a man we could name in this country, for one of the first things we would do with a very small portion of it, would be to import a few Alpacas, and naturalize them here for the benefit of the agricultural community. We wrote a little article on this subject in our April number, last year, and we intend to continue inserting others till we can influence some one, who has sufficient patriotism, to make an importation of these most beautiful and valuable animals. It pains us, absolutely, to look around and see the worthless objects on which so much money is spent in every quarter of the United States; and yet one might solicit for years, and it is doubtful whether so small a sum as one thousand dollars could be raised for the worthy purpose of importing what might ultimately benefit the country untold millions. This does not arise from a want of liberality on the part of our citizens, but unfortunately from improper *education.* Yes; we mean *education* in its enlarged sense—an education which teaches people to do with their abundant means what is for the advantage of their fellow citizens—aye, and for the world, instead of spending them so exclusively for the gratification of their own immediate vanity, pride, and luxury. Is there not a merchant among the millionaires of this great city, who will stand up as Mr. W. Dawson did—honored be his name—at the late meeting of the British Association for the advancement of science, and say:

"It is now six years since I first joined this society for a little recreation or relaxation from the trials of 30 years close application to commercial life; and at Birmingham I brought a subject before its notice, which received its countenance in a special manner. I there declared the object of that paper, which was to induce our various manufacturers to exercise their ingenuity in discovering means to consume a wool of a silken texture (as can be seen retailing) in a manufactured state, and also to prepare our landed gentry and farmers to naturalize the animal called the "Alpaca"—a species of sheep that eat what the cow, the horse, the common sheep, &c., reject. The manufactures have succeeded beyond my most sanguine expectation, and the naturalization also: the former has created a national wealth of £3,000,000 to £5,000,000 per annum; the latter is progressing rapidly. I have proved these mountain-rangers can be domiciled in our own country, though brought from *beyond* the Andes Mountains in Peru. [How much more easily then would they do this in the United States—a climate similar to their own!] I have tried the experiment in my own lands, on the west coast of Ireland, in the wildest districts of the county of Kerry; and already a company is on the tapis to bring over ten thousand of those animals for the national good. As the race is nearly extinct in Peru, it is desirable to bring them to our isles; their wool approaching silk, and their flesh being improved by English air and pasture. *Our Sovereign and Prince Albert* are now wearing royal robes manufactured from the wool of these animals, bred in the Royal Park, at Windsor. *In ten years these animals will add £20,000,000 per annum to the national wealth!*"

## CISTERNS.

Many farmers might conveniently, and with great advantage, furnish themselves economically with an extensive and permanent supply of water, when otherwise deficient, by constructing cisterns. Where they have compact clay land, no further preparation is necessary for ordinary use for stock, than to excavate to a sufficient size; and to keep up the banks on every side, place two frames of single joice around it near the top and bottom, between which and the banks, heavy boards or plank may be set in an upright position, reaching from top to bottom. The earth keeps them in place on one side, and the joice prevents them falling in. They require to be only tight enough to prevent the clay from washing in. No appreciable quantity of water will escape from the sides or bottom. We have had such an one for years without repairs or any material wasting of water. This should be made near the buildings; and the rains, carefully conducted by the eaves-troughs and pipes from an extensive range, will afford an ample supply. For household purposes, one should be made with more care and expense, and so constructed as to afford pure filtered water at all times. These may be formed in various ways, and of different materials, stone, brick, or even wood; though the two former are preferable. They should be permanently divided into two apartments, one to receive the water, and another to be used as a reservoir to contain such as is ready for use. Alternate layers of gravel, sand, and charcoal at the bottom of the first, and sand and gravel in the last, are sufficient; the water being allowed to escape from the bottom of the former into the latter, through the several layers mentioned, will be rendered perfectly free from all impurities, and furnishes the purest water in the world. Some who are particularly choice in preparing their water, make use of filtering stones, but this is not essential to securing a choice article. Occasional cleaning may be necessary, and the substitution of new materials will at all times keep them sweet.

Clearing Swamps and Marshes.—The winter is decidedly the best time to clear the brush and timber from the swamps and marshes, in order to let the sun in to dry up the water, and prepare the way for ditching, much of which may also be done now to advantage. Labor is cheap and plenty at this season of the year, and it is the duty of every one, who is able, to give employment to the needy, and get rid of those unsightly rookeries which are of no other use than to harbor the blackbirds that pull up the corn. These swamps are usually the richest land on the farm, and will pay the greatest interest of any when drained and cropped.

## THE STABLE.—No. 6.

In our former numbers, we have treated of the arrangement of stables as regards the stalls, their division, size, &c.; and their proper lighting and ventilation. In this we shall treat of the methods of fastening the horse in the stable. It is very important that a horse, and especially one not worked any or but little, and one worked very much, should be so fastened as to permit full repose. A horse moderately worked, is not fatigued by idleness (the most trying fatigue), nor by over-work. He rests with less difficulty than the over or under-worked one, and of course to him the method of fastening is of less consequence. A proper method is always necessary, and should always be secured. Where there is room, and the circumstances will permit (and every good farmer and every gentleman will find the first, and compel the last), the stalls should be made very wide, and turned into close stalls or boxes, and the horse should not be tied at all. In a box the horse will rest better, if wearied, and get less wearied, if idle, than in open stalls fastened by the head. It gives a choice of position, and this is important to a wearied animal; and it affords occupation and motion to an idle one. All horses will, if they have room, lie flat down on the floor, with all their limbs extended. In narrow stalls, with heads tied, they cannot, and are compelled to lie with head held, as when standing, or almost resting with the muzzle on the floor, and with their legs contracted and under them. *Perfect rest* cannot thus be obtained. A box of requisite capacity secures to the horse such method of lying as he prefers and his wearied condition teaches him is necessary, and with less intermission in his labor, gives him better rest, fuller recovery in less time, than in a narrow stable and tied. Humanity and interest demand that the stalls should be made so large, that they may not abridge the comfort and capacity of the horse to do his servant-work to the fulness of his powers, as the Creator designed. In the construction of stalls by the farmer, this point should be kept steadily in view. *He* can have room, and economy will be best consulted by giving to all his animals, loose boxes. If his barn be larger by reason of the boxes, his horses and cattle will be better, by reason of increased comfort and facility for rest; and to do his work, less in number will be required.

Gentlemen building stables for horses in towns, should also *take space* and make boxes. The additional expenditure, represented by the rent of the ground, will be returned by the economy in the life and power of the horse. Less horses in number will do his work, and the good ones so difficult to be got will last longer; so that there will be a saving in expenditure for horses, to sink the increased expenditure in stables, to perfectly accommodate the lesser number. Then not only will *economy* be consulted, but what is of more consequence to the gentleman, his convenience and power to use his horses also. Narrow stables and halters may unfit a horse temporarily to labor, and there is waste in keeping him till he recovers, not merely in feed, but in the veterinary surgeon's bill, and finally in the cost of a new purchase, to supply his place if ruined. Gentlemen rarely ever think of boxes, and we do not know of any in this city. In the numerous stables now erecting by the rich in the court end of the town, kindness to the brute should dictate a proper arrangement for the health and comfort of the horse. When, however, from circumstances, there is not room enough to accommodate with boxes all the horses, stalls and halters must be resorted to. If the stall be narrow and deep, it may be made into a box and the disadvantage of the halter be avoided; in other respects it is no better than an open stall; but even this, by obviating the necessity for the use of the halter, is something important, as all accidents from halter casting are obviated and prevented.

In boxes, whether so wide as to allow the horse to turn, or so narrow as to prevent it, the bottom of the manger must be up quite high, or the manger must descend quite to the floor; and indeed in all stalls, to forestall accidents, this should be done. If it be not high or quite down to the floor, the horse may get his head or feet under or over, and severely injure or permanently cripple himself.

As most stalls are both narrow and shallow, there is no turning them into boxes. In these the horse must be fastened by the halter. In such, halters become a matter of great importance, and their method of attachment also.

Halters are made most commonly of leather, but frequently also of rope, or the head-stall of leather, and the rung, or stale, or tying part, of rope. In all cases the head-stall should be made of leather; our preference is for, and we always recommend that the horse should be fastened by a rope as a rung, or by a chain attached to the leather head-stall. A chain or a rope will last longer than a leather rung, independent of breaking. The rope and chain are less liable to break, and never rot. The leather rung must be oiled, and even then will rot, crack, and break when the horse does not try to break it. When new, a vicious horse will break it, and by accident a quiet one may do the same. A chain or rope will not break, and a vicious or an idle horse will sooner chew the leather than the rope. The rope is cheaper, and will in the end wear out; but it will last much longer than leather. A chain is permanent, and is only objectionable on account of its noise; from this leather and rope are free. A chain and leather are more easily and neatly attached to the head-stall, and on that account are preferable to a rope; but the rope may be neatly platted or braided into the ring of the head-stall. Economy and security considered, the rope is to be preferred, as it costs less to buy, and the groom may repair it, which he cannot with leather, and especially with a chain. Then let the head-stall be of leather, with the stale of rope.

The halter should have a throat latch to secure it well on the head; it should not be buckled on too tightly, as it is painful, and from pressure on the poll may lead to irritation, and eventually to poll-evil. It can be secure, and yet be comfortably loose.

The fastenings for halters to attach them to the manger are usually holes in the manger, or rings fixed over the manger into the wall at the head of the horse. Either method is good, and there is no preference except as regards looks. A ring is more sightly. The one will be more secure than the other according to the manner in which they may be put up. The manger should be strong and firm, and the ring well fastened.

The horse should never be tied to the ring or to the manger by the halter-stale. A weight with a hole in it, or a ring fastened to it, should be in every manger. The halter-stale should be passed through the hole in the manger, or the ring on it, or at the head of the stall in the wall, and fastened to the weight. The halter-stale should be so long as to allow the weight to rest on the manger bottom, when the horse's head is to the manger, and the weight is only to be raised when he turns to look or step back. A halter-stale fastened to a weight will rarely ever be broken; and accidents from halter casting will be equally rare. Some horses are fond of standing back in the stalls; this the weight will prevent; some must be tied short, and the weight makes a short tie; some need a long halter-stale and a long tie; this the weight will permit. It will be short when needed and long when needed, and cannot be got under foot, as the weight descends when the horse slackens the pull; when he needs more length he gets it, by pulling the halter and raising the weight. Care should be taken to prevent the weight pulling on the head when the horse lies down, as he may not rest well if he has to support a weight.

Sometimes even with weights, horses will get halter cast. To obviate this, a contrivance of which we give a cut, has been adopted. An iron ring is attached to a bolt; this bolt slides into a socket of iron, and is kept in place by a spring. This socket is fastened to the manger or the head of the stall in the wall, having its open end down. If the ring be pulled upwards or backwards in the stall, the ring and bolt remain fast; but if pulled downward, the bolt is drawn and the horse set free. This socket should be set into the wall, and the halter-stale passed through a ring or hole in the front edge of the manger. If the horse get halter caught or cast, the bolt will come away and the leg be free, and yet the horse will be held by the ring on the manger; with this fixture the horse cannot get cast or thrown down, though he may get a leg over the halter-stale. Some security against halter casting should be adopted in all stables, and more especially with valuable horses. For the want of something of the kind, occasionally a fine horse is lamed, or ruined, or even killed.

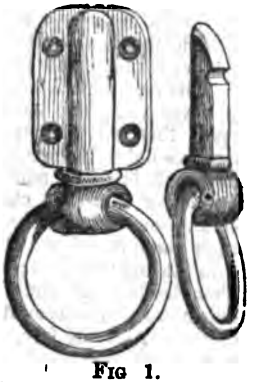

Fig 1.

Few persons keeping horses are aware of the cruelty they constantly practise, and we are sure that the benevolent and just will remedy all the evils which may be pointed out. A little expenditure, beyond that made for the ordinary arrangements, will repay itself over and over, during the lives of the horses used, in increased power to labor, and in the greater length of life. Thus both economy and humanity will be consulted.

In our next we shall treat of stable floors.

## MIXED FOOD FOR STOCK.

Wherever the science of feeding is correctly understood, a mixture of food is given to domestic animals. There is thrift, health, and comfort to the stock in this practice, and economy and general advantage to the owner. Good hay is undoubtedly one of the best and most economical kinds of food in this country, as it contains the different elements of nutrition in nearly the proportions required; and when land is cheap and labor comparatively dear, and especially where the soil is adapted to it, grass is, perhaps, the most economical food for general use. But there are many exceptions to this rule. Working horses and oxen require something in addition to hay—something containing more nourishment in a smaller compass, and admitting of more rapid digestion. When this is the case, the most economical food consists of cut hay, straw, or chaff, and meal, or roots cut and *mixed* with the hay or straw; and this is given much more economically, when wet up for a day or two beforehand, and allowed partially to ferment. Straw and grain, especially if the latter be ground, are entirely adequate to answer all the requirements of working animals. Grain alone is not sufficient for this. It is too much condensed, and other coarser food is requisite to distend the stomach, and preserve its healthy action. Straw is found to answer an excellent purpose for this object, and it, moreover, contains the phosphates in large proportions, which are essential to supply the osseous materials for the wasting of the bones.

There is great saving in the cutting of the hay, or straw, in two ways. The animals do not waste it by dragging it out of their mangers, and trampling it under their feet, and time and labor are saved them in masticating it. They obtain their supply of food readily, and then lie down to digest it. Fermentation also developes the nutritive matter and leaves much less work for the stomach to perform, and this, by saving muscular exertion, leaves more strength with the animal to be expended on his ordinary work. The same principle holds with milk cows, sheep, swine and even poultry. If the food be given to them in a form more easily adopted to assimilation in the animal system, the greater product of milk, wool, flesh, &c., they can yield from the same quantity. Cutting, bruising, grinding, fermenting, and cooking the food, all tend much to fit it for easy and rapid digestion, and whenever it can be thus prepared without too much expenditure of labor, it should be done.

By adopting a mixed food, much of the coarser products of the farm can be worked up, which are now suffered to be added to the manure heap. Indeed, scarcely any of the vegetable productions of the farm need be suffered to run to waste, till they have first contributed all the nutriment they contain to the support of animal life. It is true, by mixing them with manure, they afford whatever value they have to the next crop when incorporated with the soil. But what can be more absurd, than again to undergo the labor of raising for the use of the stock, what you have already secured? Straw and hay are frequently useful for retaining the valuable portions of the manure, which, from the defective system of saving it, would otherwise be wasted; and when this is the case, they are valuable for enriching the soil far beyond the materials they possess in themselves for this purpose. But this waste need not occur, even without the use of these valuable materials. The loss which is now sustained from the leaky floors of stables, may be avoided by making them tight, and using conductors, which will lead the liquid manure into reservoirs, which may either consist of turf, peat, or earth, which will absorb and retain it; or tanks where the manure may be mixed with ashes, plaster, or peat, where it will ferment for future use. The comfort of the cattle may be equally secured as with straw beds, by so arranging the floors as to have them at all times perfectly dry, and the shelter made sufficiently warm. If the above arrangements are all carefully carried out, and roots and grain are provided in sufficient quantity to make up the requisite nutriment essential to the stock, in a properly condensed form, and easy of digestion, large quantities of animal products from the farm, may be greatly augmented, much to the profit and satisfaction of the farmer.

## THE STATE AGRICULTURAL SOCIETY.

There are many reforms which we should be glad to see introduced into this Society, and which we have repeatedly spoken of without much effect. One of the most important of these, in our judgment, is, to elect one or two competent and liberally paid salary officers for its general management. The Presidency is considered an honorary station, and there will always be found a sufficient number of gentlemen in the State well qualified to fill it, and willing to assume the light duties of the office without compensation. The offices of Corresponding and Recording Secretary we would abolish, and elect in their place, simply a Secretary of the Society. This officer should be the principal manager of the Society's concerns under the direction of the President, Vice Presidents, and Executive Committee. His salary should be a liberal one—not less than $1,000 or $1,200 per annum; and he should have such assistants under him, at moderate salaries, as he should find absolutely necessary to attend to the affairs of the Society. In addition to his taking a general supervision of the Society, it should be his duty to make monthly excursions into different parts of the State, and deliver lectures to the farmers—pointing out marl beds and the proper use of them; the benefits of lime and plaster; draining swamps and low places; the use of muck and the best method of mixing composts; best kinds of seeds; best rotation of crops for different localities; the improvement of stock; the culture of fruits; improvements in buildings; improved agricultural implements; the formation of Farmers' Clubs; interest the people in the State Society; get them to become members; solicit donations, &c.

A Secretary properly qualified for his station, and pursuing this course, would undoubtedly add $3,000 or $4,000 a year to the receipts of the Society, and thus pay his salary twice over. We will grant that it would require a person of many and peculiar qualifications to fill the office; but we believe such can be found, and if not, it is high time some deserving man was educated for the station. His heart should be devoted to the cause of agriculture, for the *cause alone;* he should be a practical farmer and stock-breeder; possess a good knowledge of chemistry, geology, mineralogy, and botany, and as much general knowledge as possible. He should have a ready address, pleasing manners, and above all, no other interest whatever to serve than that of the Society, and the general advancement of agriculture. What invaluable reports would not such a man make; and what a mass of practical, beneficial information would he not be able to diffuse among the farmers!

A great reform is demanded in the Transactions. The reports of committees we would not only not publish, as desired by some of our correspondents, but we would not have them made at all, except as the mere reasons, verbally expressed, in the briefest possible manner, of their decisions upon the different subjects brought before them. We do not know why the assembly, on the day of the show, should be bored with long dissertations on crops, stock-breeding, agricultural implements, &c. Such things as these should be discussed in the periodicals, or in prize essays, but not on the festive and busy days of the Society's cattle show.

Much more attention should be paid to the matter of appointing judges, and those persons selected who have really some knowledge of the subjects of which they are to be the umpire. The most unjust, disheartening, and mortifying decisions are annually made for want of proper attention to this subject. We think the judges ought to be furnished with free quarters at the expense of the Society during the three days of its meeting. Another very important regulation demanded is, that the show-yard be closed the first day against visitors, and thus allow the judges a better opportunity to fulfil their duties. It is utterly impossible for them, surrounded as they are with such crowds, to properly examine the objects submitted to their decisions.

The plowing matches, and especially the trial of the draught of plows, as they have ever been conducted, we consider as so much time and money thrown away. The dynamometer is a rank humbug, and no true test of the draught of an implement; for it is scarcely less varying when the plow is moving, than a weather-cock in a gale of wind. A windlass and weights are the true tests. Besides this, different plows are wanted for different purposes, and one for a sandy soil must be constructed in a very different shape from that for a deep loam, or a stiff clay. They require as much classification as the various breeds of stock—and something so of many other implements.

Advantage has been taken of the meetings of the Society, by the keepers of taverns, to charge outrageous high prices for the entertainment of their guests. They will crowd three or four beds into each low, narrow room, and two or three persons into each of these; provide the most indifferent fare at table, and service in the house, and then charge 50 to 100 per cent. more than on an ordinary occasion. The stable keepers, hucksters, and even boot-blacks and barbers, follow the example—all seeming to unite in gouging the honest farmer, or casual visitant, to the utmost they dare. An arrangement should be made with the hotels, &c., beforehand, for the accommodation of a certain number of guests, and above all, at the common charges. The tavern-keepers have some trouble doubtless; but is not their harvest a rich one, even at moderate prices? Various other reforms have suggested themselves to us, but as our space is limited, we must defer speaking of them to a future day.

## FARMS OF THE MESSRS. HALLOCK.

These farms are situated in Milton, Ulster county, almost immediately on the Hudson River. They comprise about 400 acres in one body, and it is rarely that we meet with land more unpromising, at first sight. It is exceedingly hilly, with narrow vales through which gurgle little streams. These vales were originally deep swamps overgrown with bushes and small trees, while the upland was studded with rocks and thickly overlaid with stones.

One cannot but wonder how any person could be found with sufficient courage to undertake to clear such land; and when this was done, a greater wonder would still remain, and that is, how they were to get a living from its cultivation. However, courage and perseverance conquer everything, and people find when they have picked off the stone and laid them up into walls, that the land brings forth heavy burdens of the sweetest and most nutritious grass; and that it will, with good culture, produce 40 to 60 bushels of corn to the acre, 20 of wheat, and the same of rye; so that they begin to see, even in this respect, that it is not so very bad, after all. Fruit trees flourish remarkably well here, from which considerable quantities of apples are either sold or fed to stock, besides not unfrequently making 200 barrels of cider in a season, worth $4 per barrel in this market for vinegar. When the swamps are drained they are found full of rich muck, from one to two feet deep; underneath this are beds of marl. The first of these substances is particularly valuable. Mr. Edward Hallock made an experiment with it on corn last year, against barnyard manure, and the former beat the latter at least one fourth. The valleys throughout this county abound with muck and marl; and, strange to say, the Messrs. Hallock are the only persons in their immediate neighborhood who have made use of this rich vegetable treasure. There are many other things in the farm management here we would like to speak of; but being much in common with farms heretofore described, we leave them for the present.

*Stock.*—In addition to their fine fruit and good crops, the Messrs. Hallock have an excellent stock of milking cows, and long-woolled sheep. The first are descended mainly from the Bullock breed of Durhams, so famous as milkers—a herd of which we met at Mr. Dunn's, near Albany, in 1839, and wrote some account of in that year for the Genesee Farmer. Great care is taken in breeding these animals both on the male and female side—the Messrs. H. now using a bull descended from Dishley, imported by the late Mr. Brentnall of Orange county, and from whom has descended most of the good grade milkers to be found in that region. These gentlemen informed us that five out of six of their calves may be safely calculated upon as good milkers. They usually give from 18 to 26 quarts per day on good feed, in their best season, and some few, more than this. One of them has made 17 lbs. of butter per week. They sear the ends of the horns with a red hot iron, a few days after the calf is dropped, which prevents their growing, and gives them the appearance of muleys. This is a good practice, as it makes the cows more gentle, and they can never hurt each other with their horns. They are excellent animals, and we wish other farmers would follow their example, and breed for milking qualities. The cows of the United States are greatly deficient in these qualities. With a little attention at first in selection, good animals may be as easily bred as poor ones.

The sheep here are of the Cotswold blood principally, and are a superior flock. The Messrs. Hallock paid high prices for choice selections, to begin with, and have continued to breed with great care. They have frequently won premiums at the State Agricultural Society and other shows, with their sheep, and none in the State bear a higher reputation. More than this it is unnecessary to say.

The country in Milton and around abounds in noble scenery, and being very healthy and furnished with all the comforts of good living, it has become quite a resort for our citizens to place their families for the summer. We are glad to see that the custom of removing the women and children of the city to the country for a renovation of their physical system during the hot weather is on the increase. Few places, we can assure our readers, are better suited for this purpose than the banks of the Hudson.

Cast of a Short-horn Prize Heifer.—Having learned that this cast had been taken in London, Prince Albert intimated to Mr. Rotch of New York, who was the means of getting it up, that he would be pleased to see him in regard to it, at Buckingham Palace. He accordingly waited on the Prince with a cast of the beautiful statue, which he presented to him. The Prince expressed himself highly pleased with the present, and intimated in his interview with Mr. R., that he should propose to the English Agricultural Society, that similar models of prize animals should be taken from year to year as subjects of comparison, and with a view of improvement in stock breeding. Our only object in mentioning this matter is, to show the attention paid to the improvement of animals in Great Britain, and that it is there considered a refined and scientific business, not beneath the attention of the highest minds of the empire. With too many of our own countrymen, we regret to say, stock breeding is thought a *vulgar* occupation, worthy only the merest clodhoppers' attention. We hope to live to see a change in public sentiment in regard to this thing, and are happy to say, that some of the most highly educated and refined gentlemen in this city were subscribers for these casts, and express themselves highly gratified on obtaining them. We spoke of this beautiful model in the November No. of our last volume, and must refer our readers to that for a more full account of it.

What is Good Farming?—The best and most pithy definition we ever heard of good farming, was given by Mr. Kane, at a late agricultural meeting in Dorsetshire, England: He said he fed his land before hungry, rested it before weary, and weeded it before foul.

## A POTATO WASHER.

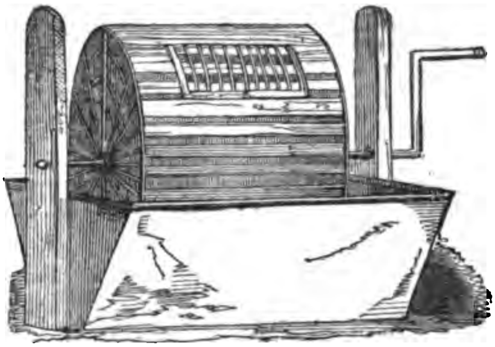

FIG. 2.

We copy the above sketch of a potato washer from the English Agricultural Gazette, which describes it as simply a churn-like cylinder, with open bars placed at such a distance as to prevent any of the potatoes from falling through, except very small ones. As it revolves, the lower part passes through a trough of water, and thus washes them. The cylinder may be easily unshipped from the frame any time desired. We have seen something similar to this in our country, and it was found very convenient, especially where large quantities of potatoes were used. Potatoes, and indeed, all roots, before being fed to stock, ought to be well washed.

## Spanish and French Merinos.

IN compliance with your request, I give you a short abstract of such observations on the present condition of Merino sheep in France and Spain, as my limited opportunities allowed me to gather, during my excursion in these interesting countries the past year. My travels extended over but a small portion of the sheep districts of the latter country, owing to the many obstacles which concurred to obstruct my progress. My opportunities of observation, therefore, were narrowed down to a small compass, and I beg you will assign no more than their due weight to my superficial examinations.

On my arrival at Madrid, my first step was to ascertain through our minister, Mr. Irving, to whom I am much indebted for furthering my efforts in the most cordial manner—whether permission to export sheep could be obtained. Upon investigation it was ascertained that no impediment existed to prevent their exportation, other than a duty of about $5 per head. Learning this fact, I at once proceeded to elicit such information from some of the leading proprietors, as would tend to give me a general idea of the characteristics of their respective flocks. Although experiencing great difficulty in acquiring any other satisfactory information, tending to establish the superiority of any one breed at the present time, still I found it to be the prevailing impression that the best race of sheep were those belonging to the Geronimo Monks, which, on the suppression of the monasteries, were scattered over the kingdom, and chiefly fell into the hands of the more wealthy grandees. I was told, however, that none of the descendants of this superior flock are now to be found *pure*, owing to the carelessness of their breeding after changing masters, and as a natural consequence of the distracted state of this unhappy country, which in subjecting the agricultural interest to all the harassing vicissitudes of civil war, has necessarily prevented that attention which alone could secure and preserve the superiority and purity of this race. To this cause also is doubtless to be assigned the deteriorated condition of those flocks of which I took a personal inspection. The flocks of the Duke del Infantada and Don Fajoiga, are among the largest in Spain, embracing upwards of 200,000 sheep. Those of the latter rank much higher in choice breeding in the estimation of Spaniards, than the former, though he very frankly admitted that pure bred Paulars were not to be found in his flock, nor, in his opinion, did they exist at the present day in Spain. This assertion I took without any qualification, as coming from one who is entitled to every consideration, and in right not only of his being one of the most enterprising agriculturists of the day, but of his prominent position as President of the corporation instituted for the security and preservation of the sheep interest. I regret to add, that some of the Spanish breeders have latterly made the same mistake as too many of us here at home, viz., in having sent to Saxony for rams to cross upon their flocks, which has lessened the size and injured the constitution of their flocks. They now see their error, and are returning to the strong, hardy, pure old race as fast as possible.

The principal province for the pasturage of *transhumantes*, or wandering sheep, during the winter season, is, as you are well aware, *Estramadura*. To this interesting portion of the country I directed my steps, deviating from the ordinary track of travellers, for the purpose of taking a personal inspection of some of the most celebrated flocks. My interest was first excited by the reports which reached me, of the superior reputation of the flock of Don Jose Alvarez, near Frujillo, and accordingly I availed myself of the earliest opportunity to see them. This person was the administrator of the Prince of Peace, and had the exclusive management of his flock. On the confiscation of his property, a portion of the sheep fell into his (Alvarez's) hands. He represented them to me as being the only pure Paulars now to be found in Spain. These sheep were very uneven, and did not impress me favorably, though possibly a good judge might by careful selection obtain some valuable animals here. The bucks were of fair size, and of good proportions; tolerably well woolled; the quality of wool quite good, and would command about 40 cents with us at present. I should think that selected bucks would yield 8 lbs. per head. The price asked for these sheep was $12 each. I may as well mention here that the English importation, in 1814, was made from this flock. After this I visited a number of other flocks, but they were so inferior to those last seen; that any further account of them is superfluous.

In these flocks, or indeed any others it was my good fortune to see, I could discover no points of superiority sufficiently marked to justify an importation into the United States. I am very far from wishing, by these remarks, to discourage any one from investigating the subject for himself. My opportunities may have been too limited for an impartial judgment; and a more thorough and extensive search by a more experienced person, might find something worthy of being brought to this country, to improve our fine flocks. I heard of a few isolated individual sheep in other provinces, as being very large, strong and fine. But if these could be had at all, it would be at very high prices. I had quite forgotten to observe, that the price of wool, of the better grades, ranged this year, from 80 to 100 rials per arroba, or about 20 cents per lb., in its unwashed state.

I cannot omit in my notes on the Spanish sheep, some allusion to the dogs which I saw in charge of them. These noble animals are a very necessary appendage in this country, for the protection of the flocks against the ravages of wolves, which infest in large numbers almost every portion of Spain. They resemble the mastiff more than any other race of dogs with which I am familiar, exceeding the huge and far-famed St. Bernard in size, and blending unusual ferocity, with all the docility and sagacity which characterizes that breed. The price of these dogs varies from $30 to $50. They are mostly a brown or tawny color; have fine muzzles, large heads and jowls; ear standing erect from the head nearly its whole length, but dropping over at the end; full in the throat and neck; stout and muscular in the whole body; about two feet six to two feet nine inches high; hair long and wavy, and the legs and tail feathered. They are the largest dogs I have ever seen. One is more than a match for any wolf—those of Spain being large, savage, and courageous—and two will kill one directly. They would prove of great value for certain portions of America, and should be imported for the purpose of guarding our flocks.

As regards the sheep of France, which came next in order under my observation, I feel enabled to speak with more confidence, having more time at my disposal when I visited them, and an opportunity of subjecting them to a more minute examination. The Rambouillets I take up first as in the order visited. They struck me as being infinitely superior to any I had seen in Spain. They are of great size, and are very fine and even in their fleeces. A prominent defect in the flock, is rather too great a length of leg. This, however, can be easily remedied by directing attention to this point of their breeding. Their bucks shear on an average from 12 to 16 lbs. per head, and occasionally go as high as 17 or 18 lbs.; the ewes average from 8 to 10 lbs. The wool, though unwashed, is quite neat and free from tag-locks. The history and management of this flock is so well known, and the fine specimens from it recently brought into this country, have rendered their superior qualities so familiar, as to supersede the necessity of any further notice of them. A public sale takes place every year in May. They are in great demand at present and bring high prices.

I will now direct your attention to another flock derived directly from the Rambouillets, which, not only in the opinion of intelligent French agriculturists, ranks at least as high as these; but in my own humble opinion, is unsurpassed in most points of excellence by any sheep I have as yet seen. I refer to the flock of V. Gilbert, who resides in the Department of Oise and Seine, par Maule, some thirty miles from Paris. This flock was commenced by the father of M. Gilbert, about 40 years ago, and has been improved by judicious selections and occasional drafts from the Rambouillets and other flocks of equal celebrity. The great points of excellence, so peculiar to his flock, consist in their unsurpassed beauty and symmetry of form, with large size, and wonderful production of wool. I saw bucks here which produced the past year 18 lbs. of wool, and of a very fair quality. Their age was two years old past. I selected, with the intention of importation, a yearling buck, which I considered the finest specimen of the sheep kind I have ever seen. This animal had taken the first premium the past year at the great Sheep Fair of France, at St. Germaine. He was of large size, and unequalled in form, being then seventeen months old, and weighing 215 French pounds (about 230 lbs. English). His fleece weighed 16 lbs. in the grease, and was of a quality that I feel assured, would command in this country 40 cents per lb. at this present moment, or perhaps more, clean washed. The price of this animal may be regarded as exorbitantly high—$400; but when it is considered that he was much the best animal produced by this gentleman during the last ten years, and doubtless possessing qualities so much superior to most of his race in France, the terms cannot be regarded as unreasonable. Unforeseen circumstances causing my return in July instead of September, as I had anticipated, alone prevented my bringing so valuable an acquisition with me for the improvement of our race of Merinos in this country; and to my great regret, no pecuniary consideration could induce M. Gilbert to part with the animal before the close of the tupping season, which in his flocks is during the month of August. The annual sale of the produce of this flock takes place during the month of May, and the price they then bring varies according to their excellence, from 250 to 1000 francs; the ewes are very beautiful, and command about 100 francs each. The risk, and various items of expense in importing these fine animals into the United States is considerable, much more than one unacquainted with the business can form any idea. T. H. N.

*New York, Dec.* 17, 1845.

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We are under great obligations to our correspondent for the above interesting article on French and Spanish Sheep, and will add, that his account of them is corroborated by several gentlemen from these countries with whom we have recently conversed. Two of our friends, after viewing the French and Saxon Sheep, are now in Spain looking over the flocks there. They are excellent judges of sheep and wool, and will undoubtedly import a few choice animals the present year. On their return to the United States we shall be furnished with full particulars of what they may have seen while abroad. We are persuaded that all we want now, is a slight dash of the best foreign blood among our noble native flocks, to make them equal to anything in the world as individuals, and far superior as a mass.

## Mr. Norton's Letters.—No. 15.

*Agricultural School of Templemoyle, Ireland.*—After my visit to Islay, described in my last letter, I made, in company with Prof. Johnston, a short excursion to Ireland. The immediate object of our going thither at this time, was to be present at an examination of the Templemoyle Agricultural School, near Londonderry. This school has now been established a number of years, and is in a most flourishing condition. This success, however, would never have been achieved, had it not been for the indefatigable exertions, and liberal contributions, of many gentlemen interested in the cause; chief among whom must be ranked Sir Robert Ferguson. Living only a few miles from the school, he has enthusiastically endeavored to forward its interests, and now has the pleasure of seeing it in a condition to fulfil his expectations.

Templemoyle is about nine miles from Londonderry, situated on a beautiful green hill, with a most lovely prospect from its front. The buildings are plain, substantial, and convenient; the dormitories for the boys scrupulously clean, and everything in the highest order. There is the commencement of a good agricultural museum, containing seeds, roots, tools, models, &c.

The farm attached to the institution is worked entirely by the boys, and is in beautiful order; we saw, I think, but a single weed. The land was originally light and thin in some places, but mostly a poor thin clay. By thorough draining, deep plowing, liberal manuring, and judicious cropping, it has now been brought into capital condition for the most part; all of the crops were good except the grass in the pasture field.

The boys are maintained for the very low sum of £10, or about $50, per annum, including tuition; of course they live in the most economical manner.

Examinations first took place in Geography, Arithmetic, Reading, and all the ordinary branches. They were then brought out upon the green in front of the house, in order that all of the great crowd of spectators might have an opportunity to hear the Agricultural examination. They were first required to answer a long list of written questions; this they did very well, but it was not perfectly satisfactory, as they might be supposed to be beforehand prepared upon them. Prof. Johnston then took up the examination, and subjected them to a very severe cross-questioning, which they bore admirably. Their answers showed that they had not merely learned a certain number of answers by *rote;* but that they had *thought*, and had in some degree applied the principles taught them, to the circumstances in practical experience which each day presented. The result was very satisfactory to all friends of the institution; and, I believe, satisfied every one present that the boys were prepared for future usefulness.

Since the Templemoyle examination, I have attended the Annual Show of the Highland Society at Dumfries, and while there, I saw an examination of about 25 boys, in Agricultural Chemistry, who had been brought together for the purpose from various parts of Scotland. I was at a preliminary and a public examination. These boys, in their different schools, had attended to Agricultural Chemistry for half an hour or an hour, once a week, this length of time being that recommended by the Education Committee of the Agricultural Chemical Association.

As a preliminary step they were examined by Mr. Davidson, Rector of the Normal School, Edinburgh, on the usual branches of education in the parish schools, to show that these had not been neglected. In conclusion, Mr. Davidson declared that in these branches they seemed equal to the children of other schools. Prof. Johnston then commenced the part allotted to him, and purposely striking away from the beaten track of the Catechism, made his questions unlike in form to any they had before heard. The readiness and the thorough acquaintance with first principles which they showed, astonished every one present. Some prizes had been offered by the Agricultural Committee to the boys who acquitted themselves best, and the eagerness which they all manifested, was most amusing. The different masters also became highly excited each for his own boys, and I felt myself, when the competition waxed keen, becoming almost as much interested as if I were one of the parties concerned. Some eight or ten of the boys were so equally matched that it was almost impossible to decide which was best, and premiums were accordingly given to each of them. I never saw anything more entirely and triumphantly satisfactory than this examination. No person present could have remained unconvinced that young boys could not only remember, but *understand*, the principles of scientific agriculture, as laid down in Prof. Johnston's Catechism. One of the boys who took a premium was a little fellow of eleven years, and the pertinency of his answers frequently elicited bursts of applause. Eight schools were represented at this time; but this instruction has as yet been introduced into but a small portion of the parish schools of Scotland. What has been done there and in Ireland is most encouraging, it shows that the movement is on safe ground.

I trust that in America, by the universality and completeness of our instruction, we shall be able to show the old country an example in this respect.

*Durham, Nov.* 12, 1845. JOHN P. NORTON.

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A SUPERIOR YOKE OF WORKING OXEN.—When I was present at the Cayuga County Cattle Show last October, I saw a very superior yoke of working cattle. The owner informed me that he had put in 50 acres of spring and fall crops of grain with them the past season; some of the land for which had been ploughed three times, and that this yoke of cattle had done the whole, besides hauling his hay and grain from the field to the barn during harvest time. Will not this demonstrate that ox-labor is cheaper than that of the horse? N.

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CURIOSITY—GRAFTING.—In the spring of 1844, I put two grafts of an early apple, into an old bearing tree. In July or August (the exact time not remembered) following, I cut off one of the sprouts, and put two buds in other limbs. This summer the buds bore apples; one of them had four apples on it, which came to maturity; the grafts also bore apples. The fruit partook of the nature of the tree in which it was grafted to some extent.

*Jersey Shore, Pa.* ROBERT HAMILTON.

## AGRICULTURAL CHEMISTRY AND GEOLOGY.—No. IV.

*Q.* Why do old dairy pastures especially require bones?

*A.* Because milk and cheese contain bone-earth, and if these be carried away and sold off the farm, the land is robbed by degrees of this bone-earth, more than of any other substance. Only those grasses can then grow which require little bone-earth.

Every ten gallons of milk contain about half a pound of bone-earth. A cow, therefore, which gives twenty quarts a day, takes about two pounds of bone-earth from the soil every week. To return these two pounds to the soil three pounds of bone-dust are required.

*Q.* Is hair much used as a manure?

*A.* No, hair is generally too expensive to be used as a manure. But, in China, where the people's heads are all shaved, the shavings are collected for manure, and the sweepings of our hair-cutters' rooms might be also employed with profit.

*Q.* In what form is wool used as a manure?

*A.* In the form of woollen rags. Mixed with earth, woollen rags make an excellent compost.

*Q.* What kinds of animal dung are most commonly employed as manures?

*A.* Night-soil, horse dung, cow dung, sheep's dung, pigs' dung, and birds' dung.

*Q.* Which of these is the most valuable?

*A.* In general, night-soil and birds' dung are the most valuable; next, horse dung; after that, pigs' dung, and lastly, cow dung.

*Q.* Why is night-soil so valuable?

*A.* Because men generally live upon a mixture of animal and vegetable food, which renders the dung richer.

*Q.* Why is the solid part of horse dung richer or hotter than cow dung?

*A.* Because the horse voids little urine compared with the cow.

*Q.* What is the principal objection to using pigs' dung?

*A.* The disagreeable smell and taste it is said to give to the crops raised from it.

*Q.* What is the best way of using pigs' dung?

*A.* The best way is to make it into a compost, or to mix it with the dung of other animals.

*Q.* Why is cow dung colder and less liable to ferment than most other kinds of dung.

*A.* Because the large quantity of urine voided by the cow, carries off a great proportion of that which would otherwise cause it to ferment.

*Q.* How would you collect the liquid manure of your farm-yard?

*A.* I would make a large tank or cistern in or close by my farm-yard, in which I would collect it.

*Q.* How would you use this liquid manure?

*A.* I would pump it back occasionally upon my dung heaps, so as to promote their fermentation; or I would pour it upon my compost heaps.

*Q.* Does birds' dung form a very valuable manure?

*A.* Yes, pigeons' dung especially, is a very rich manure; and the dung of sea-fowl has lately been introduced into this country, with great advantage, under the name of guano

*Q.* What is nitrate of soda?

*A.* Nitrate of soda is a white salt-like (saline) substance, which is found in the earth in some parts of Peru, and is often applied with great advantage as a top-dressing to grass lands and to young grain.

*Q.* What does nitrate of soda consist of?

*A.* It consists of nitric acid and soda.

**54 lbs. of nitric acid, and 31 lbs. of soda, form 85 lbs. of nitrate of soda.**

*Q.* What is nitric acid?

*A.* Nitric acid is a very sour corrosive liquid, called also aqua-fortis. It consists of the two gases, nitrogen and oxygen.

14 lbs. of nitrogen and 40 lbs. of oxygen, form 54 lbs. of nitric acid.—*Prof. Johnston.*

## DISEASES OF ANIMALS.—No. 1.

I HAVE recently seen in your journal some notice and review of Mr. Morrel's work on Sheep husbandry; and as I intend from time to time to make a few communications on the various diseases of sheep and other animals, it has brought to my mind one very singular, and perhaps to others, unobserved disease, which I will give some history of, by way of introduction to my future numbers.

On riding out to my farm one pleasant morning, some time in January last, my tenant informed me that one of my ewes, which came in the night previous with a pair of twin lambs, had just died. She being a fine young ewe of an uncommon breed for thrift and quality, I felt on that account a particular interest in ascertaining the cause of her death. My tenant told me that for a few days, just previous to her yeaning, she had been dull, would not eat with the flock, and would stand out in the field. I went out to the field where was the body, found it still quite warm, examined its external appearance very critically, could not discover any marks of violence or injury, and consequently proceeded to have a personal examination, which is always my practice when any of my stock dies from disease, or any unknown cause, which I hope will give additional worth to the cases I shall report, as every examination has been made by myself.

On first exposing the abdominal viscera and the contents of the thorax, every part appeared to be in so healthy a condition, I imagined I should be baffled to account for the cause of its death; but on opening the womb, I readily discovered extensive disease; the whole internal surface was studded with a kind of tumor, called in human medicine the cauliflower excrescence. This is a tumor which resembles the cauliflower in appearance, and which has been sometimes noticed in the human subject, as a disease of females, a drawing of which, together with hydatids, another tumorous disease, may be seen in Dr. Dewees' excellent work on the Diseases of Females. These tumors in the ewe spoken of, were of a flesh color; the texture appeared to be extremely delicate, and a fluid of a bloody watery nature seemed to be discharging from the hurt or wound, occasioned, in all probability, from parturition.

This case is interesting in many respects; for such tumors or diseases are very seldom met with in the human female, and for the few cases which are on record, no adequate cause could be assigned

Again, as the ewe was but little more than a year old, came in with her first lambs, had not appeared to be diseased until within a few days of yeaning, all taken into consideration will serve, I hope, to cause additional attention to be paid to the diseases of animals, and search for causes of death in every animal that dies in any mysterious or uncertain manner.

There are so many diseases in animals that assimilate to those of the human species, and the treatment of such appears so well adapted to each other, that medical men generally are turning their attention to animal medicine and to agriculture, as sciences intimately connected with their own profession. In fact, the nature and diseases of animals, especially those of sheep, have been too long neglected, and the remedies that are generally prescribed, are by those who know not the why nor the wherefore—who are entirely unacquainted with the true nature of anatomy, physiology and pathology of animal medicine, and, under such circumstances, are as much liable to do injury as good. Humanity, therefore, justly prompts a more special attention to animals—to ameliorate their diseases and sufferings, and render more scientific and systematic attention to their history. We may justly consider, that a malpractice in regard to brutes, that shall occasion an undue suffering and sacrifice of life, is attended with a degree of moral responsibility at least proportionate to human life itself. The way, then, must be opened by medical men; they alone, at present, as a general thing, can give system, order, and science to the study, and I am happy to see that animal medicine and agriculture are no longer beneath their notice, and begin to assume a standing and attention that they so justly deserve. I shall devote some of my future numbers for especial consideration of medical men to the subject of husbandry. Andrew Stone, M.D.

*Lake Court House, Ind.*, *Nov.* 22, 1845.

## CLIQUES AS OPPOSED TO HONORABLE COMPETITION.

I have looked with sadness and sorrow upon the tendency of partyism as it shows itself in various departments of husbandry in this country. As a people, we are such worshippers of Mammon, we are in such haste to be rich, that many, very many, attach a fictitious fancy-value to everything they possess; and in their minds, there is a corresponding disposition to depreciate everything of equal value belonging to another. A stock-breeder, for example, may have a very valuable breed of horses cattle, sheep, or swine. In his estimation, it is the best the whole country affords. He wishes all others to have the same good opinion of his animals as himself. His expectations are raised of realizing large profits from sales of his unrivalled stock. The public must be dragooned into a kind of mania, to possess what he possesses, and every one who buys becomes at once a partner in the concern. The press is laid under contribution in a thousand forms, to puff his wares. Some favorite agricultural paper is made the constant medium of communication with the common minds; and the system of subsidizing editors to insert sham or covert advertizing, is prosecuted with all the ingenuity of which the man is capable. The business of *writing up* his own stock, and *writing down* the stock of others, becomes a regular business, and is prosecuted with an energy worthy of a better cause. I have been sickened and pained at the exhibition of utter selfishness and want of heart, which I have often seen manifested, so unworthy of a high-minded farmer. We want nothing of this cliqueism and partyism in American husbandry. We want honorable competition, not this mean and miserable spirit. And for, one, I think it high time that it was rebuked. I blame the agricultural press, when it lends itself even unwittingly, or otherwise, to promote the views of such a class of men. It ought to know better. And I blame more than all a *venal* agricultural press, that will be flattered, or cajoled, or bribed, or bought up, to serve the interests of any clique or party in husbandry or the mechanic arts. We have a great country, and we should have hearts large as our country. We need honorable competition, and we should do all in our power to encourage it. Let us feel that we can talk with each as friends, not as foes, through your columns, and those of every similar paper in the land. Let us be improvers, not calumniators.

What say you, Mr. Editor? Am I right or am I wrong? Is there no venality and corruption of the public press in your department, to be feared? I bring no accusations against *you*. I believe you have endeavored to breast this influence with becoming energy. Let our farmers be a noble band of brothers, each doing well himself, and rejoicing in the prosperity of others—too high-minded not to despise the spirit of which I have spoken, and too honest not to bestow upon it a justly merited frown and rebuke. I hope I shall despise myself when I become so selfish and so mean that I cannot rejoice in the improvements of others, and when I cannot admit the merit of anything which they possess, which has merit in itself. I will give my approbation to whatever is meritorious, let it be where it may, and however it may interfere with my individual interests. If another man has what is really better than anything I possess, let my tongue be palsied when it refuses to say it. Agricola.

## FINE CHINA CLAY IN GEORGIA.

Some time in the early part of last summer, a Mr. Hardy, from Georgia, left at our office, 27 Cliff street, a small sample of white clay, which he supposed might be fuller's-earth. I tested it for that earth, but found it totally different. On presenting the sample before the Brooklyn Natural History Society, it was referred to Mr. J. T. Bailey, a gentleman well acquainted with the various materials used in the china manufactory of England, who immediately pronounced it to be a fine quality china clay, bought by their potters at $15 per ton; at least double the price of fuller's-earth. The following is the report made by Mr. Bailey to the Institute:

"The specimen of clay, brought by Mr. Hardy, from Georgia, I immediately saw was good china clay, not inferior to the Devonshire clay used in making the best china ware in the Staffordshire potteries. I divided it into two pieces, and submitted it to a strong heat, sufficient to calcine or bake it into (what the potters term) the biscuit state, as it appears in the unglazed piece, which is the state in which the pattern is always put upon china. I then took the other piece (which was in the biscuit state) and dipped in into potter's glaze, and submitted it to a sufficient heat to vitrify it, as it appears in the piece that is glazed. I was under the necessity of using the common yellow glaze employed by the manufacturers of stone ware here, but if I had used the fine white china glaze, it would have been a beautiful white instead of yellow. I consider the discovery of this china clay to be very important, for it has hitherto been thought that a fine description of china could not be made in the United States for want of proper clay; but this proves that clay sufficiently good can be found, if potteries were established for making it into china-ware."

The Georgia papers are requested to copy the above, that it may be brought to the notice of Mr. Hardy, who did not leave his address when at the office of Wm. Partridge.

*New York, Dec.* 8, 1845.

## CURING MEAT.

Farmers have a mutual interest in the communication of everything which is beneficial in relation to their common concerns in Agriculture, and domestic economy. With this view, I would thank you to insert in the Agriculturist the following observations, relative to condiments for curing meat. Having for 35 years avoided as far as possible the use of meat which had been cured with saltpetre, on account of its injurious effects, I shall endeavor to show why that article should be disused, and what may be used in place of it; being at the same time fully aware of the influence of prejudice and habit in the perpetuation of injurious customs.

It is contended by some persons that man was not intended to be a carnivorous animal, and that meat should not be used for diet; but all admit that he is, and ought to be, a granivorous animal, and that such grains as wheat, rye, oats, barley, &c., are healthy articles of food, which were designed for his use. In these articles are contained the following ingredients, viz.: potash, soda, lime, magnesia, alumina, silica, iron, sulphuric acid, phosphoric acid, and chlorine or muriatic acid, &c. These articles are supposed to be united together in grain according to their affinity. And it is not doubted that they were placed in grain for the purposes of digestion, nutrition, and secretion. Those parts of them which actually enter into and are used in the system, are principally carried off through the kidneys in the urine; as may be seen by the analysis of urine, by Berzelius, which is as follows, viz.:

| | |
|---|---|
| Urea | 30.10 |
| Free lactic acid, lactate of ammonia and animal matter not separable from them | 17.14 |
| Uric acid | 1.00 |
| Mucus of the bladder | 0.32 |
| Sulphate of potash | 3.71 |
| Sulphate of soda | 3.16 |
| Chloride of sodium, or common salt | 4.45 |
| Phosphate of soda | 2.44 |
| Phosphate of ammonia | 1.65 |
| Muriate of ammonia | 1.50 |
| Phosphates of magnesia and lime | 1.00 |
| Siliceous earth | 0.02 |
| Water | 933.00 |
| | 1000.00 |

By this analysis we see that out of these ingredients, which are contained in grain, are formed a variety of compounds, either in the grains themselves, or in the course of the processes of digestion and secretion, and among the rest are three kinds of alkaline salts, viz.: chloride of sodium, or common salt, and the sulphates of potash and soda in nearly equal proportions; and they are carried off in urine, in order to give place to an additional supply which is continually furnished in food. These three kinds of salts, then, are natural to the animal system of man, and are necessary to it, and are the only kinds of salts which can with certain propriety be used for curing meat. Other salts, such as alum, or borax, may preserve meat, but they would be injurious in the system, not being natural to it.

The purgative and antiseptic properties of these three kinds of salt, common salt, and the sulphates of potash and soda, are somewhat similar; but the sulphuric acid is remarkably antiseptic, and it communicates its antiseptic properties to the sulphate of potash and soda in a high degree. A much less quantity of sulphate of potash will cure and save meat than of common salt or saltpetre. The sulphate of soda I have not tried in curing meat, and therefore cannot say what flavor it would communicate to meat. But the pure sulphate of potash I have used in curing hams and shoulders of pork, and dried beef, and barreled beef pickled; and it communicates to meat an admirable flavor, entirely superior to that which it has when cured by saltpetre. I used nearly the same quantity in curing meat as is generally used of saltpetre, or about one ounce to 25 lbs. of meat. I have known the sulphate of potash applied to the curing of meat in another manner, ever since I can remember anything about the curing of meat, for at least 40 years. The sulphate of potash abounds in wood ashes, and is known to potash-makers by the name of *nitre*. The manner in which I have known it used was as follows:—Put one peck of wood ashes into 20 gallons of water, stir it up thoroughly, then let them stand and settle. After the water is settled, and is clear, pour off the clear white ley which is thus made, into another cask, and dissolve in it half a bushel of common salt, stirring it well. Let this settle, then pour off the clear brine, and put it upon as many hams and shoulders as it will cover, and let them lie in it three weeks; then hang and smoke them. If they have been anointed with sugar or molasses, and lain a few days before the brine is put upon them, their flavor will be improved by it. Meat has a stronger affinity for the sulphate of potash than it has for common salt, and therefore the common salt which is present in the brine will in no wise lessen the effect of the sulphate of potash.

By reference to the Cultivator, vol. 8, page 114, it will be seen that Mr. John Lewis, of Llangollan, Kentucky, has for 35 years used another mode of applying the sulphate of potash which is contained in wood ashes, to the curing of hams and shoulders; which I doubt not is equally effectual with the modes which I have suggested, but not quite so convenient as to mix the pure sulphate of potash, with brine of common salt. But I doubt not it is equally effectual His mode of curing is to mix one part wood ashes with four parts of common salt, and pack the hams down in this mixture, and let them lie three or four weeks, and then wash them off and smoke them. In this case, as the soluble parts of wood ashes are principally potash and sulphate of potash, the moisture of the meat shortly dissolves them both, and the sulphate of potash will be taken up by the meat in the same manner as if in brine. And Mr. Lewis informs us that this mode of curing makes good sweet meat. Saleratus, also, almost invariably contains a considerable proportion of sulphate of potash. Saleratus is made from the pearlash of commerce, merely by impregnating it freely with carbonic acid, and the pearlash of commerce almost invariably contains a considerable proportion of sulphate of potash, but in various proportions, according to the quality of the ashes from which it is made.

In the year 1817, I had on hand 7 tons of pearlash, and perceiving that sulphate of potash abounded in it, I separated the sulphate of potash from it by a simple process, and obtained 520 pounds from the 7 tons of potash, or nearly 4 per cent. Saleratus, therefore, may be used instead of white ley in curing meat. But the surest and best way for those who can obtain it, will be to use the pure sulphate of potash. The sulphate of potash is a strong salt, and yet is only a gentle purgative. An ounce is rather a large dose, but would not injure any grown person. On the other hand, saltpetre, in large doses, irritates and inflames the bowels, and a dose of one ounce produces death. It is a strong poison; and fortunate would be that person who could escape death, even with the very best medical assistance, after taking such a dose. For the truth of this, reference may be had to Beck's Medical Jurisprudence, article, Nitrate of Potash. In small doses of one or two grains it diminishes the heat of the body extremely, and is used by physicians for that purpose in fevers. In healthy persons it produces an unnatural coldness and dyspepsia. While spirituous liquors were in common use, it may have been useful in lessening the unnatural heat occasioned by them. But now that the cause of temperance so generally prevails, there seems to be no good reason for continuing the use of this poisonous ingredient as a condiment for curing meat. And if its properties and effects are generally well known, its use for this purpose will be abandoned.

Henry J. Canfield.

*Canfield, Ohio, Nov. 10th, 1845.*

## IMPROVING LAND.

Having succeeded beyond my most flattering expectations, through the aid of the Agriculturist and kindred journals, in subduing a piece of ground that was deemed almost unconquerable, I wish to give your readers a few very plain facts, which will show that sustaining agricultural journals is a profitable investment. I commenced tilling the soil on my own hook, quite young, and practically knew but little about it; and though I have had my own ignorance and the prejudice of others to contend against, yet I have already hinted, and in the sequel will attempt to show, that I have accomplished something. I happen to know some farms where some of the best meadow land is a scar on the place; bogs, briars, and wet places abound, where at least two tons of good hay should be annually cut to the acre; and then produce as much pasture beside, in one season, as it would previously to any improvement. Now, I wish to attract particular attention to this fact, for it is indeed a *fact;* though I know some old-fashioned farmers, who, if they were to meet with this, their mouths and eyes would expand with astonishment, and horror would be depicted on every furrow of their visages. First of all, let me say, that it needs a due share of energy and perseverance, qualities I hold essentially requisite to the accomplishment of any undertaking; but where a farmer especially is bound to persevere, it really seems astonishing what one can accomplish. But, to my object. I am extravagantly fond of improving land; there is something peculiar about it that always interests me; it really seems like a certain way of improving one's self; and who is there that cannot appreciate it? Certainly, waving fields of grain are far more beautiful than acres of brush and stone.

I have a small plot of ground that once seemed graced with almost innumerable obstacles to successful cultivation; bogs and bog holes; hedges and briars; low places and high places, existed in all their native majesty; and it really seemed irreclaimable. But I have not found it so. The first step was to drain it thoroughly. And here just allow me very briefly to repeat my testimony in favor of draining. Previous to draining, the ground was so peculiarly situated, every little shower the water would collect in little pools, causing, for the time being, a certain check to all our operations, thereby losing much time. Now it bleeds at every pore, and we no longer fear to have it rain. To all our farmers I say, *drain* land that needs it, without delay. *Standing water is death to all useful vegetation in this climate. Draining does wonders.* After a thorough and complete draining, I could scarcely recognize the soil; the difference in the yield of grass was perfectly astonishing. Everything that could grow seemed to enjoy and take advantage of its new liberties. If any anti-book-farmer wishes to mark the contrast between improved and unimproved land, I invite him to come over and see it; for just alongside of mine is a piece of ground still in its original neglected and forlorn state, yielding but an indifferent supply of pasture. Says one, why does not your next neighbor follow your example? I answer, he is one of the easy, old-fashioned kind, but often tells me he feels encouraged *now,* and thinks *some day or other* he will undertake it.

My next step in order was to cut and burn the bogs, and apply the ashes to a crop of corn, which proved more pleasant and profitable than crops of bogs. I have just now completed plowing for the season, having the ground as rough as possible, in view of the action of the frost, which, by spring, will prove an admirable pulverizer. One more fact I wish plainly understood. I plow my land very deep, much deeper than many of my neighbors, and have never failed from this cause in getting a remunerating crop. At the solicitation of a friend, I attended the late plowing match of the American Institute, at Harlem, and however nicely done otherwise, I soon observed that, for some soils, I should wish it deeper. My average depth for plowing is twelve inches; but the heavier the soil and the more retentive the subsoil, the deeper would I plow. I particularize on this fact, because I have years of my own experience to support me, and because I have old-established farmers all around me who are very much prejudiced against deep plowing. Its advantages, in a few words, are a deep soil for roots to penetrate for nourishment, and that the surplus water may pass through more rapidly. But a very safe criterion is a comparison between an ordinary farm and one where deep plowing and good cultivation is constantly practised; then mark the difference in the yield, aside from the general appearance of the farm. I always want those who are opposed to deep plowing, to account for the enormous yield of vegetables and growth of trees in a garden where the soil has been trenched and manured to the depth of eighteen inches or two feet. As to the depth, I would never plow in any soil were it possible, less than twelve inches, and in some soils much deeper. It is true, I often expose a poor subsoil in my practice, but to this I apply a double portion of manure. As I am of the opinion that manure for land is like oats for a horse, it is the best medicine you can give, and as the oats are applied inwardly, so I plow in my manure; and as it seems to me the surest way of securing its benefits, or of "fixing the ammonia," as the *fashionables* will have it. I have seen farmers scatter loads and loads of coarse yard manure upon the surface of the ground, which practice I consider wasteful in the extreme, as almost every particle of any use is lost, as it is the *roots* we wish to supply with warmth and food, and not the *air*. I believe, however, we have yet much to learn in the application of manures. Now, as to the economy of my practice, I will add that I am perfectly satisfied, and will give one proof in *dollars and cents;* as English writers say that is the universal way of defining American problems. My crop of hay this dry season I calculated paid the interest of $5 per acre, while along side of it, is land that scarcely yields enough to pay for fencing.

One more word as to manure. I am no chemist or scientific farmer, yet I believe in manure, and make it my constant practice to apply to the land every substance in the shape of manure, except such decidedly acid substances as new tan, pomace, and the like. The higher portion of my ground I have converted into a nursery, and have now upon it a most beautiful, healthy, and thrifty growth of fruit trees; and as I have now come to the *tree* part, my favorite hobby, I may at some future time, if agreeable, give you a few practical hints on the successful cultivation of fruit trees. As I have been myself remarkably successful, I could wish that others might enjoy as much. W. D.

*Morristown, Morris Co., N. J., Nov.* 27, 1845.

CUTTING ROOTS.—Happening in your store the other day, in your absence, I was shown quite a variety of machines for cutting roots. I have no doubt they will do their work well and cut with great rapidity; yet after all I question whether they are a labor-saving machine to the small farmer. I can, in fifteen minutes, cut up on the frozen ground, or on my barn floor, with a strong hay knife or sharp spade, as many ruta-bagas or beets as ten head of cattle ought to eat at a meal. Common turnips and potatoes are so small they may require a machine, and perhaps when these are much fed, it will be economy to purchase one. JAS. WINTHROP.

*Harlem, Dec.* 13, 1845.

## AGRICULTURE IN ALABAMA.

As the year 1845 is now coming to a close, I feel it due to the different Agricultural Works, which I take, that I give through their columns, some account of the operations on my farm. I say some account, for it is impossible for me to give in one sheet anything like a *full* account, as I find myself at this time, at page 188 of what I term my farming memorandum book, or diary kept of all the operations done on my farm. Although I have kept a similar book for near twenty years, I have never attempted to give at the close of the year my system of farming; but believing that if the cultivators of the soil throughout the United States, would thus compare notes once a year, it would have the effect of greatly encouraging each other in improving their system. I speak from experience, having been stimulated to renewed exertion often by reading from the pages of the different papers and periodicals devoted to agriculture, the many accounts of the success of the farmer. Now, I cannot give my brother farmers a very flattering account; having settled a new country, every furrow I have plowed has been among trees and stumps. I will now, however, give it as it is.

It is my custom to commence each year on the 1st of January. The profits of the farm vary greatly with the seasons, as every farmer knows. We cleared in 1844, upwards of 16 per cent. on the capital invested in agriculture. In 1845, as will be seen, there will be a considerable falling off from the previous year. This is attributed to two causes: first, I planted much less cotton; secondly, I suffered greatly from the severe drought that has cut short my cotton crop one-third.

The first item of capital employed in agriculture is my farm, 1st of January, 1845, at $8,550. There is in cultivation on this farm of poor pine land, or sandy soil, 267 acres.

The present year, the following is the arrangement of the land:

| | | |
|---|---|---|
| In Corn, | 120 | acres. |
| " Cotton, | 80 | " |
| " Oats, | 60 | " |
| " Sweet Potatoes, | 3 | " |
| " Upland Rice, | 2 | " |
| " Garden, | 2 | " |
| | 267 | |

The following notes of the time of planting the crop and the seasons, I copy from my book. At page 44, I find we commenced planting corn on the 26th of February. The land planted in corn quite broken. Planted in drills on the horizontal system; the rows six feet wide, the corn two feet apart in the rows: peas planted in the middle of the rows. At page 64, I find it turned quite cold, the corn planted on the 26th February, bitten down. On page 75, I find we commenced planting cotton on the 31st of March. The land planted in cotton is level; about half of it manured with compost manure, prepared by hauling into a lot where my cattle are penned, equal parts of the penned straw and the blue marl, that abounds in this region. In putting in this manure, we have a deep shovel furrow. We scatter the manure in the furrow, and then throw up a bed on the manure, planting on the top of the bed. At page 100, I find the greatest want of rain, on the 26th of April. I find at page 125, that on the 2d of June, lice were preying on our cotton; that on account of the dry and cold spring the prospect was quite gloomy. I was absent from home from the 4th of June to the 16th of September, during which time but little rain fell. At page 148, I find that we finished hauling in my corn on the 27th of September, making 1300 bushels. We finished, the first week in October, picking out the cotton, making 35 bales; and as I make a most splendid article,

| | |
|---|---|
| I value it at $40 per bale, | $1400.00 |
| At page 187, I find that we have been 44 days hauling marl, at $2 per day, | 88.00 |
| At page 187, I find that we have been 24 days hauling straw, at $3 per day, | 72.00 |
| There will be 30 more days employed in hauling marl and straw, at $2.50 per day, | 75.00 |
| Other improvements on the farm, | 100.00 |
| | $1735.00 |

The expenses of the year I set down at $450.

ALEXANDER McDONALD.

*Eufaula, Ala, Nov.* 25, 1845.

## CARROTS VERSUS OATS.

It has been stated in the New York Farmers' Club, that a bushel of carrots cut fine by a root cutter is fully equivalent to a bushel of oats for horse feed in winter. If so, of how much importance is the cultivation of this crop to the farmer, who works horse teams, or keeps brood mares and raises colts? Of the comparative value of these two crops, I cannot speak advisedly in mild weather, and the horse moderately worked; but in cold weather, and the horse hard worked, roots of any kind are poor feed. Under these circumstances, a horse must have grain in our climate. I would leave it to the intelligent farmers to make experiments, taking into account the cost of each. This much we can do.

I have raised upwards of 800 bushels of carrots to the acre, but never raised over 56 bushels of oats; the whole of the work of cultivation of the carrots was done with harrow and cultivator, except the pulling up a few weeds with the fingers, where the two implements would not reach without injury to the carrots; making the labor of cultivating but little more than that of corn, except the harvesting. I always have found them an excellent feed for all kinds of stock, but especially for milch cows. For carrots as well as all other root crops, plow deep. Put in the subsoil plow, after the common plow, as deep as it will go, and manure highly, and I will warrant a good crop, let the season be wet or dry.

I once had an Irish gardener famous for large stories. He said while in the employ of a nobleman who was very fond of trying experiments, he dug a hole in the ground as big and as deep as a barrel; set a pole into the hole twelve feet long; then built a pyramid of earth round it, to the top; mixed the whole well with compost; pulled out the pole and filled up the hole with a rich loam, mixed with chemicals; planted his carrot seed, and when it had come up, pulled out all but one stand. This he watered with liquid manure through the summer, and, in the fall, he took away the dirt from the carrots. "And faith, Misther," added he, "sure it had grown to the bottom of the hole, twelve feet long, and as big as your thigh."

Your readers may believe as much of Patrick's story as they choose; yet, this is certain, that I have occasionally grown the Belgian white field carrots three feet long and 4 inches diameter at the top, in a rich, deep, alluvial loam. S.

## SHIPPING SHEEP.

Having had occasion the past month to ship four beautiful Merino sheep from the Hon. Wm. Jarvis, of Vermont, to E. R. Brown, Esq., of Gallatin, Miss., the directions received from Mr. Jarvis for doing this were so judicious that we copy them into our paper as an excellent guide for all engaged in such business. He says:

Will you allow me to suggest, that I think they would go best in a pen of about 6 feet long and 4 to 4 1-2 feet wide, and about three feet high; to be boarded tight on the back, and both ends and top, with the exception of a door in the latter to put the sheep in and give them drink. In front there might be slats up and down about an inch and a half wide and 3 inches separation, one from the other, the slats to be a little rounded in the separation; the bottom to be slatted with slats of 4 or 5 inches wide, and about half an inch separation from slat to slat, to let the urine and dung through; but the separation must not be wide enough to let their feet through. There ought to be nailed across the bottom, three cleats, one at each end and one at the centre, to keep the pen from the deck, so that a bucket of salt water might be occasionally thrown under to keep the sheep clean and without wetting them, as being kept dry is essential to their health. In front a board of about a foot wide may be nailed at the bottom of the slats, but to slope out about 9 inches at the top, and secured at each end to make a manger to put the hay in: the bottom of this manger ought to be about a foot from the bottom of the pen. A small trough ought to be made at the end under the door to feed grain in; a salt water bucket, that is, a bucket bigger at the bottom than at the top, ought to be lashed in the corner of the pen under the door, and may be kept half full of water all the time to let them drink when they will —taking care to throw out the water when it gets fouled by their dung. This shaped bucket is much better than a common pail, as the water will not slop half so much out of it in the rolling of the sea.

They will require about 2 lbs. [we prefer 4 lbs. as considerable is wasted on board ship] of good hay each per day, and a pint of good oats. It would be well to agree with some of the attendants, or a faithful sailor, to see that they are fed with hay night and morning, and oats at noon; and for his attention to give him half a dollar or a dollar a head over and above the freight, if they all arrive safe.

*Weathersfield, Vt., Nov.* 17, 1845. WM. JARVIS.

To the above we will add, we have found by actual experiment, that large sheep like the Cotswolds, &c., will eat from 3 1-2 to 4 lbs. of hay per day on board ship; and allowing for waste, 5 lbs. per day, per head, should be laid in for the whole voyage

## LIME IN VIRGINIA.

UNDER this head we noticed an article from Mr. A. Nicol, of Virginia, on page 342 of your last volume, and should have replied to it sooner, could we have got the various analyses of our lime to do so effectually. We now subjoin such as have been made by Dr. Chilton, of New York, from average (not picked) specimens of the different strata of our quarries. Dr. Chilton is of opinion that the sample which Mr. Nicol speaks of being analyzed by Mr. Stuart, happened, unfortunately for us, to be an inferior specimen, or perhaps it had lain some time subject to air-slaking before being analyzed. By exposure to the air, burnt lime absorbs water and carbonic acid in the process of air-slaking; therefore, an analysis of such exposed sample will yield less lime per cent. than a sample fresh from the kiln. This is an important consideration. We now subjoin the different analyses:

| | *No.* 1. | *No.* 2. |
|---|---|---|
| Lime | 58.49 | 59.48 |
| Silica | 9.21 | 8.41 |
| Alumina | 5.36 | 4.23 |
| Magnesia | 11.81 | 10.34 |
| Oxide of Iron | 92 | 1.11 |
| Carbonic acid, Water and loss | 14.21 | 16.43 |
| | 100 parts. | 100 parts. |

| | White Specimen. | Dark Specimen. |
|---|---|---|
| Lime | 52.22 | 73.68 |
| Silica | 8.15 | 5.70 |
| Magnesia | 11.65 | 1.78 |
| Alumina | 13.98 | 3.70 |
| Oxide of Iron | | 88 |
| Carbonic Acid and Water | 14.00 | 14.26 |
| | 100 parts. | 100 parts. |

The *white specimen* was analyzed Sept. 13, 1839; the *dark specimen*, Dec. 5, 1845. No. 1 and 2, Dec. 18, 1845. Mr. Nicol gave Dr. Beck's analysis, showing 92.75 per cent. of carbonate of lime, we therefore need not repeat it here. Dr. B. was one of our State Geological Surveyors, and analyzed the specimen from our quarry during his survey in 1839, in order to give it in his official report to the State; he would of course under such circumstances endeavor to be as correct as possible. We have numerous letters which we could produce acknowledging the superior merits of our lime, but after the above we think it unnecessary to say more. We are much obliged to Mr. Nicol for the handsome manner in which he acknowledges the beneficial effects of our lime on Virginia soil, and hope it may induce others to try it.

CALVIN TOMKINS & Co.

*Peekskill, N. Y., Dec.* 20, 1845.

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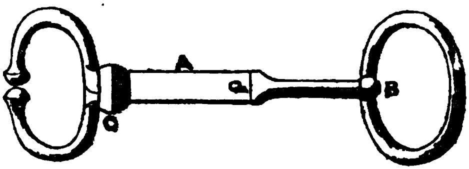
To this communication of Messrs. Tomkins & Co., it may be proper for us to add, that they have left the original analyses made by Dr. Chilton, in our hands for inspection by any one wishing to see them; also commendatory letters of their lime, from those who have long used it. Dr. Chilton is considered one of the best analytical chemists in this city, and probably has not his superior in the United States. We have every confidence in his analyses being strictly correct, he being in daily practice of analyzing.

## CATTLE HANDLER.

I HAVE been saved much trouble by the use of the accompanying little instrument for the management of unruly cattle.

This is simply a light bar of iron, A, about eight inches in length, with a ring handle of sufficient size to admit a man's hand, which turns on a swivel, B, at one end, and at the other end, a pair of calliper-shaped legs, one of which is stationary, the other opens with a joint, similar to the joint of a pair of common tongs. The fixed leg is inserted into one nostril of the animal, and the moveable one is bent into the other, where it is kept in place by a slide, which passes over a flat spring, at C. With this instrument a man can, with one hand, manage the most unruly animal, for the purpose of administering medicines, or performing any other operation.



CATTLE HANDLER—FIG. 3.

It can be made by any ingenious blacksmith (mine was made by William H. Rose, of Flushing), though care must be taken that the ends of the legs be blunt, and so contrived, as not to meet (a space of ¼ of an inch between them, is sufficient), otherwise they would pinch the septum, or partition of the nostrils, and give unnecessary pain to the animal, and render him more restless.

WILLIAM H. SCHERMERHORN.

*Rose Hill, Flushing, L. I.*

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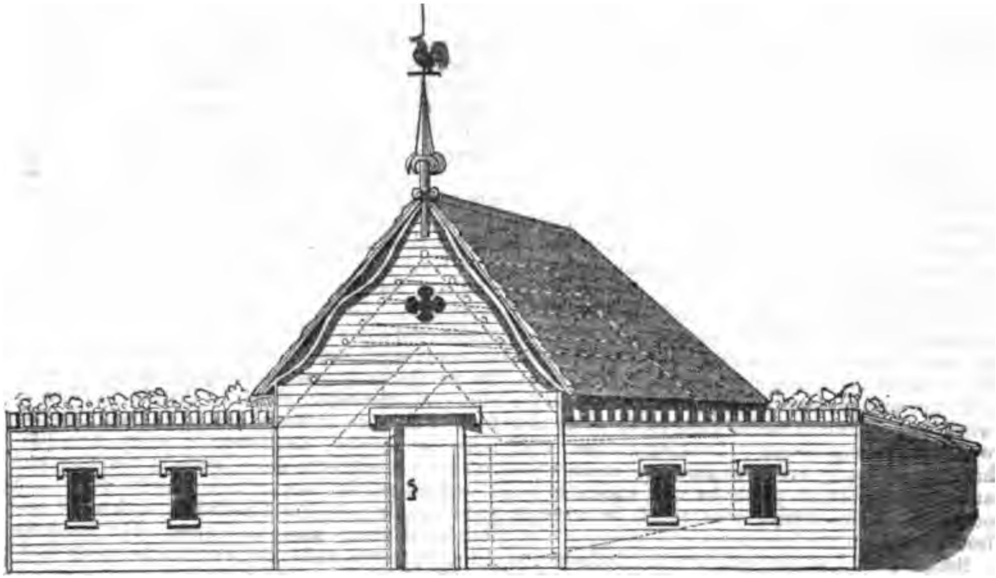
OVERSEERS FOR FARMS AND PLANTATIONS.—We are almost daily beset with applications for properly educated managers for farms and plantations, in different parts of the country—we mean for such persons as are up to the improvements of the age, and have the capacity to carry them properly into effect. If farmers' sons would qualify themselves for such stations as these, instead of going to shop-keeping, or running after some beggarly profession, both themselves and the country would be great gainers thereby. The following is a specimen of applications for overseers from the south, which we received the other day. We know not where to find suitable persons to fill these stations; we mean such as are qualified by education, experience, and skill.

"Could you recommend any one to me as a manager on my plantation? He will have upwards of 100 of my people in charge, including old and young. He must not only be well informed, but practically acquainted with the improved mode of agriculture in relation to raising the best crops of corn, wheat, grass, &c.; the management of horses, cattle, sheep, and hogs; be able to keep plantation accounts, &c., &c. To a person qualified in all respects to manage my plantation, I shall be willing to pay $500 per annum, provide him with a comfortable house to live in, provisions, and two servants to do his cooking and house service; a horse to ride, and besides some other little privileges."

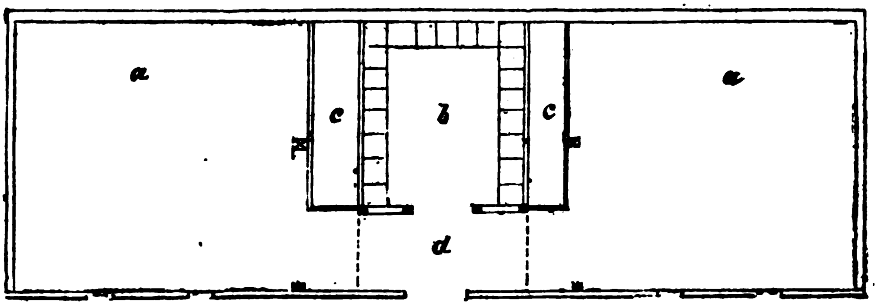
## DESCRIPTION OF A POULTRY-HOUSE.



FRONT VIEW OF POULTRY-HOUSE.—FIG. 4.

BEING about to erect a domicil for the accommodation of my golden top-knots, I have looked through the American Poulterer's Companion in vain for a plan, that, in all particulars, suited my taste and ideas of what would be most agreeable to them; for I conceive taste and utility are not incompatible even in a hen-house. I have, therefore, made a plan to suit myself, which I enclose for your criticism, and if approved, it is at your service.

This poultry house will accommodate 100 fowls in stormy weather. It is built on the side of a bank fronting the south. The posts of the centre building are 8 feet; those of the wings or storm-houses, 6 feet front, and 4½ feet rear; the depth, 12 feet, and the fronts of centre and wings 12 feet each, being just the length of the boards: the whole is well thatched. The roof of the nest house extends over the passage to the front, so that the droppings fall into the boxes placed outside of it for that purpose. The slat window in the gable is the ventilator. One, or both of the wings may be omitted, depending upon the wants or taste of the builder. Cost about $25, if built of rough boards.



GROUND PLAN OF POULTRY-HOUSE.—FIG. 5.

*a*, *a*, Storm-houses, or promenades; *b*, laying house; *c*, *c*, boxes to catch the droppings off the roof of the laying house; *d*, passage ways.

If not built against a bank, I would have a cellar under one of the wings, for the laying hens in the winter; and instead of contiguous boxes, as is the usual practice, I am satisfied single boxes distributed about the house is altogether preferable. I prefer single nests to clusters.

WILLIAM LEAVENWORTH.

*Long Branch, N. J.*,

## Horticulture in Holland.

There are few pleasures more truly enjoyed by the traveller than a visit to places long familiar to him from his earliest childhood; when scenes described in books of study, or the recreative reading of maturer years, come visibly before him with a pleasing reality, and bring thronging upon the mind many delightful associations of his early years. It was with feelings somewhat akin to these, that I found myself on board a comfortable steam-boat, and with only a few miles between us and Flushing, winding along the devious and lazy course of a Dutch river, on my way to the land of cleanliness and thrift, of canals and dykes, and of bulbs and beautiful flowers—the paradise of good housewives and florists.

Passing by Dort, and through a flat and meadow-like country, we reached Rotterdam in the evening, and were comfortably established in a good hotel. Before seven in the morning, maid-servants, mops, and force pumps were in efficient action against the windows; and wo to the luckless spider or fly that was caught unprepared. Looking-glasses were hanging at nearly every window, so ingeniously arranged, that every passer-by was visible to the occupant of the house, who could be screened from view.

Rotterdam is a stirring place, with fine docks and considerable shipping; and much of its prosperity is owing to the Dutch possessions in the East Indies. There are no nurseries of any note in the vicinity, and the common character of the flowers exposed for sale, evinced that it was not here that Holland could sustain her reputation in horticulture. There are a few small summer-houses in the suburbs, and some fruit trees trained as espaliers, or *en pyramide.*

These summer-houses are on the exterior of the town, and afford a good view of the green, level meadows which surround them. The gardens attached are frequently kept in nice order. The walks are laid with pounded bricks or shells, and edged sometimes with box or showy plants, and sometimes with low lattice work or boards, painted green. Neatness is their characteristic, and not a weed is seen. Mulberries and grape-vines are sometimes trained against the walls, and yield large profits to their owners. The fruit of one peculiarly fine mulberry tree, covering a whole house, has, in some years, been sold for nearly $200.

Rotterdam possesses in the Boomptie, one of the finest quays in Europe, inasmuch as it is lined with noble elms and limes, of more than a century's standing. During the summer, the Boomptie forms a favorite promenade for the inhabitants; the trees affording shade, while the river generally ensures a circulation of fresh and cool air. Here are the principal hotels, the windows looking out upon the Maese, a majestic river at this place, with vessels of every description frequently passing.

Taking a diligence for the Hague, we rode pleasantly along the banks of the canal, now covered with burden and packet boats. Small gardens, and some very pretty country seats, were scattered along the road. There was no want of water here, and it was frequently used in the way of miniature lakes, canals, &c. The approach to the Hague is delightful, and the chief beauty lies in the noble trees which border the roads in various directions for several miles, and unite in a mass of forest north of the town. Hague is decidedly the finest city in Holland; is the seat of Government, and possesses a beautiful mall, with some good public buildings. It is a favorite summer resort of the wealthier classes, and its principal hotel embowered in the thick forest, is at that season crowded to excess. From the Hague, the locomotive carried us with rapid strides to Amsterdam, that amphibious city of land and river.

Nowhere is the industry of man more perceptible than in this singular city, built as it is in the midst of a level marsh, and in danger of being overwhelmed by the waters which encompass it on every side. The streets are very narrow, and the canals emit a most offensive smell. In the vicinity, are some small houses, with neat gardens, to which the merchants sometimes escape from the noisome city. All the water drank in the city is brought from a distance in boats, and is pumped into the houses or cellars. Even this, however, it is difficult for a foreigner to drink, without vomiting, and I was obliged to take Seltzer water. There is a good botanic garden at Amsterdam, with a fine collection of plants from the Capes. The windows full of hyacinths and tulips, evinced the native fondness for flowers.

Returning to Rotterdam by railroad, we passed a few hours very pleasantly at Haarlem and Leyden. Haarlem has long been celebrated for its cultivation of flowers, and more particularly of bulbous and tuberous rooted plants. The cultivation of these and the numerous gardens, I have described more particularly in Hovey's Magazine, and their repetition here would occupy too much space. No traveller who feels the least interest in horticulture should visit Europe without seeing the "*bloemistries*" of Haarlem. The many acres covered with the rich and gorgeous bloom of the hyacinth, the tulip, and the crocus, in varieties whose beauty is scarcely known here, would leave upon his horticultural sense an impression not easily effaced. Haarlem, too, is well worth visiting, independently of its gardens. Its quiet character, and neat, clean, streets, impress the traveller agreeably.

Leyden is a short railroad ride from Haarlem, and is one of the prettiest towns in Holland. It is remarkably quiet, with the exception of an occasional group of noisy students belonging to the University, which once stood among the first in Europe. The Rhine passes through the city by various channels, and is crossed by nearly 150 fine bridges, many of them built of stone. Some of the houses are of a superior character; and many of the streets bordered with majestic trees, form noble avenues. Outside of the town is a pretty park, planted with trees and shrubs, and used as a promenade. The grand attraction of Leyden is the Botanic Garden, celebrated by its connection with Clusius and Boerhave. The inscription, in honor of the former distinguished botanist, was rather amusing.

> "*Non potuit plures hic quærere Clusius herbas,*
> *Ergo novas campis quærit in Elysiis.*"

No more new plants the earth to Clusius yields,
He therefore seeks them in the Elysian fields.

The garden is subdivided by hedges in the formal style, is most excellently arranged, and contains many fine and rare trees and plants. A *Fraxinus ornus*, or flowering ash, is shown, which is said to have been grafted by Boerhave himself. It is grafted about a foot from the ground, upon a common ash stock, and the stem nearly twelve feet high is covered with numerous knobs, which produce a singular effect. In one of the houses was the "Palm of Clusius," a *Chamærops humilis*, 20 feet high, and about 240 years old, with about fifty other varieties. We were also shown a fine gingko tree, about 35 feet high. It yields its flowers every season, early in the summer.

I have seen no garden so well arranged as this. Great care is taken to bring together as much as possible, and classify in subdivisions all those plants which belong to the same natural family. One house is appropriated to aloes, of which there is a large collection; one of the American species is 100 years old. The Cape plants are kept in a separate house, and number many fine varieties; the *Chorizyma* with its small orange and scarlet flower, and the *Photea argentea*, with its silvery foliage. A fine specimen was shown of the *Pandanus utilis* from Mauritius, and the *Pinus lanceolata*, a beautiful new pine from New Holland. There was a collection of *orchideous* plants—100 species of cactus, 70 kinds of figs, and a *salicetum*, containing 70 species of willows. The plants used in medicine are grouped by themselves, and all the herbaceous plants are arranged according to Linnæus. Farther improvements are making in the ground, and the Leyden Botanic Garden will soon have, if such is not already the case, few rivals in Europe. We certainly saw nothing of the kind on the Continent, which pleased us equally well, and no garden there, excepting perhaps that of Padua, could compare with it for excellence of arrangement.

In the vicinity of Leyden are many villas; but no pleasure grounds worthy the attention of a visitor. They are all in the same taste; both house and garden are hidden by rows and small groves of trees, or by tall evergreen hedges. The meadows in Holland exhibit luxuriant vegetation. and it is from these old pastures that Dutch butter has derived its celebrity for richness of flavor. These are seldom pastured by cattle, and the soiling system is generally practised. Land of indifferent quality is rented in Holland at 15 guilders, or $6 per acre, and the best at $60 the acre, besides the heavy taxes for the support of the dykes, &c. Holland was well characterized by Sir William Temple, when he said:—" It is like the sea in a calm, and looks as if, after a long contention between land and water which it should belong to, it had at length been divided between them." The greater part is in meadow, and some good wheat is occasionally produced. The soil, however, could scarcely be deemed rich. In some places it is scarcely better than sand, tinged with alluvial deposit. In other places, muddy deposits have formed over the sand, making a clayey soil of no very excellent character. Here is seen strikingly evinced, what industry, perseverance, and high cultivation will do; for although her soil cannot compete with the German States, in the production of grain, yet the meadows of Holland and her dairies may well compete with the far-famed Devonshire cream, or our own Orange county butter.

S. B. Parsons.

*Flushing, Long Island, Dec.* 16, 1845.

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American Agricultural Association.—This Association held its regular meeting on Wednesday, the 3d of December last. The President being absent, the chair was taken by Doct. Alexander H Stevens, one of the Vice-Presidents. The night being very stormy, there was but a thin attendance The minutes of the last meeting were read and approved. Dr. Field stated that he received last spring a specimen of spring wheat, of a superior variety, from Mr. Hays, of Montreal, with the understanding that it should be sown, and the result communicated to the Association. The wheat was sown in drills, nine inches apart. It came to maturity in good season, produced a fine berry and strong straw. It would be sown again next year, when it was hoped that there would be a sufficient produce for distribution among the members of the society.

Mr. A. Stevens, in pursuance of an invitation at the November meeting, exhibited some casts and pictures of cattle, and made some remarks in relation to them, and stock in general. Some informal conversation then followed among the members, when the meeting was adjourned.

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A Productive Farm.—The New England Farmer, in giving a brief extract from the account which has been going the rounds of the papers, of Mr. Gowan's farm, near Philadelphia, says, there must be some "guessing in stating these quantities of products as common yields." Perhaps there might have been; but I must be allowed to know something about Mr. Gowan's farming operations, having spent several days at his hospitable mansion, and had an opportunity of looking over his farm book. I have no doubt of the accuracy of his accounts. I saw the milk measured from day to day, from one of his Durham cows, which was 31 to 31½ quarts per day. I wish every farmer in the United States could see Mr. G.'s crops when they are gathered; they would think if there was any "*guessing*" in the matter, it was rather *under* than *over* their actual value. Samuel Allen.

*New York, Dec.* 17, 1845.

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Cattle Yards.—Keep the bottom of these as dry and comfortable for the stock as possible, so that when it thaws or rains, the animals will not be obliged to stand in the mud. Cattle yards should always be well littered. Litter adds largely to the manure heap, and not less to the comfort of the stock. Don't complain that you have no litter; look about you and you will find it.

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When not to take up a Tree.—An experienced transplanter of trees says, it is a maxim with him never to take up a tree while the sap circulates, as it will be more or less detrimental to it.

## DAVISON'S INVENTION FOR CURING PROVISIONS.

CHANCE, a few days since, took me to the packing house of Mr. Davison, in Leroy street in this city, and I there saw the apparatus invented by him for the salting of meats. This invention is so important to the agricultural world, that I am induced to call attention to it.

Mr. Davison, prior to his present occupation, was long connected with the manufacture of salt; and having resided at one period in South America (a country with greater capacities for the production of the hog and the ox than any other), he had his attention very naturally turned to the subject of the preservation of meats. The invention now put into perfect operation by him is the result of his observations in his earlier pursuit, and much thought and investigation. Endowed by nature with an inventive genius, and having had the benefit of a good education, together with the scientific advice of Dr. Lardner, whom he consulted upon his arrival in this country, in reference to this subject, he perfected the invention by reducing it to reality and successful operation.

The whole apparatus is perfectly simple. It consists of a large cylinder made *air tight*. It has a mouth-piece through which the meat is put into the cylinder. On this mouth-piece is fitted a lid, with its surface so adapted to the mouth-piece that no air can pass. Strong screws bind it close to the mouth-piece. On the lid are two air vents with screws to open and close them. This cylinder, mouth-piece, and lid, are made of the best of iron, with a thickness proportional to their size.

There is also a large vat to hold brine. This is made of wood, and is elevated above the cylinder, and connected with it by a pipe. Through the pipe the brine passes from the vat to the cylinder. There is a lifting pump attached to the cylinder. By it the brine is pumped from the cylinder into the vat.

The meat, being first cut, is placed in the cylinder and the brine admitted. When the cylinder is filled with the brine, the lid is closed down on the mouth-piece and screwed fast. The pump is then put into action and the brine carried back to the vat. When the brine is all removed from the cylinder, the meat is in a vacuum; this is obvious, for the brine had of course expelled the air; the cylinder and closed lid, being air-tight, did not permit the air to return when the brine was withdrawn. The meat, being in a vacuum, parts with all the blood, air, and gases which may be contained within it —these escape into the vacuum of the cylinder. The brine is now again introduced, and when the meat is covered, the air-vents in the lid are opened, and the brine drives out all the air and gases which had escaped from the meat. When the cylinder is full of brine, the air-vents are closed, and the brine is pumped into the vat, and the meats are again in vacuum. Again blood, air, and gases escape into the vacuum. The brine is again introduced, and the meat covered; the air-vents are then opened and the air and gases escape from the cylinder, and the cylinder is filled with brine. The brine is withdrawn and returned again and again until the operation is completed. The interval of withdrawing and returning is short at first; but when the blood, air, and gases are expelled from the meat, the brine is allowed to remain on the meat for some hours, say four to eight. After the blood, air, and gases are expelled, and the meat has remained in the brine for six or eight hours, it is cured. The whole process will require about twelve hours.

The principle on which the method acts is that of a pressure upon the meat in a vacuum. In its ordinary condition the meat is filled with blood, air, and gases; when immersed in brine, in the ordinary process, these, by their resisting power, prevent the brine from entering the meat; the blood has an affinity with the brine, and leaves the meat to unite with it. The pressure of the water and its specific gravity being greater than that of the air and gases, the air and gases rise to the surface and escape, and the brine takes their place. To do this, however, takes time, and about six weeks are found necessary to accomplish it. When, however, the meat is in a vacuum, the blood, air, and gases *escape at once;* being escaped, the brine exerts its pressure, and the meat is charged at once. This pressure in the ordinary method of curing is nothing more than that which arises from the weight and pressure of the quantity of brine necessary to cover the meat. In the cylinder, the meat, when the blood, air, and gases have been separated from it in the vacuum, can be subjected to an illimitable amount of pressure. To do this, nothing more is necessary than the elevation of the vat. Connected as is the vat by a pipe to the cylinder, the pressure is in proportion to the elevation of the vat. By means of the vacuum the meat is freed from all the means of resistance to the entrance of the brine; and the pressure of the brine may be carried to any extent that the meat will bear without collapsing. When in vacuum it is swollen, its fibre distended and pores open, and it readily admits the brine even at the simple pressure of the mere quantity of brine which the cylinder will hold. In this matter, experience has taught that the pressure of a single atmosphere is the most effective; a greater one tends to close the pores of the vacated meat, and a triple atmospheric pressure completely closes them, to the exclusion of the brine. The whole secret of the action of this method is, that the vacuum fits the meat at once to admit the brine; and the pressure, if not too great, at once forces the brine into the vacated pores, and this done, the meat is cured. By the use of the vacuum, the natural process is shortened from weeks to hours, and the meat is cured *at least as perfectly;* indeed far more perfectly.

Such is Mr. Davison's process. He has patented it, and deserves, for his ingenuity scientifically applied, to reap a rich harvest. Rich as it may be, it will be but the faint shadow of the one to be reaped by this great meat-raising, curing, and eating country.

The advantage of a *rapid* curing of meat in a perfect manner, is obvious to every one. But there are numerous advantages beside. Let me enumerate them.

All meats salted and cured in the ordinary method, require two packings to pass inspection, and for family use. When the meat is cured, which will be at the end of six weeks or two months, the brine is bloody and foul. In the large packing and inspection establishments, the meat is re-packed, and the first brine is thrown away. With the vacuum process, the meat when cured, at the end of twelve hours, is free from blood, and ready to receive its final packing, fit to pass inspection, or keeping for family use. In the process of curing, pork increases in weight, ten to eleven per cent. In the ordinary process, two months are necessary to gain this; and of course, the interest, storing, and insurance, for that period are lost to somebody; in the vacuum process the meat is cured in twelve hours and the ten per cent gain is *obtained at once*, and there is no loss of time, interest, storage, or insurance. In the ordinary method, the packer cannot sell profitably until after two packings and two months of time; in the vacuum process he may sell in one day, reaping the gain of the increase.

The longer the meat is in curing, the more the natural juices are extracted by the brine. Hence, when the meat is cured equally well as to its being saved, its quality will be better in the short process, for its juices are not lost in the brine.

These advantages apply to all seasons of the year, and by the vacuum process there is a great gain, even in the winter, when meat can be cured by the ordinary process. But there is yet another advantage, and it is this:—

Meat, by the vacuum process, may be cured in summer as well and as perfectly and safely as in winter; once in the cylinder, it is safe. The cylinder will make it so at once, under any circumstances; but, if necessary, the cylinder may be enclosed in a wooden box (a non-conductor), and the space between case and cylinder filled with powdered charcoal. This at once makes a refrigerator, and with the brine, a temperature approaching freezing point may be maintained during the whole time of curing.

In the West, less capital for the purchase of meat will be necessary if the vacuum process be adopted, for time, interest, storage and insurance will be saved. But to the West it will give yet another advantage; it will enable them to commence packing earlier. Not unusual is it for them at Cincinnati and St. Louis, to be closed up in December with ice, and a stop put to shipment. If packing can commence in October, the loss of cold weather in feeding and the staying power of ice will be obviated. A hog or a beeve is fatted more easily in warm than in cold weather. But neither can be killed and cured in warm weather by the ordinary process; by the vacuum process they may. To pack in the ordinary way you must feed longer, and that even with a scarcity of food, to get to the cold weather, that you may safely cure; and by no means can you meet a present demand or a rising market. By the vacuum process, you obviate long feeding, warm weather (and that may occur even at midwinter to spoil meat cured in the ordinary mode), and you may meet a present demand or a rising market, without loss of interest, storage, or insurance. It may be objected that there is an expense in the vacuum process not incurred in the ordinary one. In the ordinary process you cure and wait two months, and then repack for inspection or to keep for family use. In the vacuum process you cure and pack, and are done; and the two packings of the ordinary mode are more expensive than the curing and packing of the vacuum process. Hence there is economy in capital and outlay, in time and expense subsequent to the first packing. To this is to be added, that the meat is better on account of the retention of its natural juices in a greater degree. Here all comparison between the two methods ends. The advantages of the vacuum process, beside, are all its own.

Hitherto, when meat got skippered or tainted it was lost:—now it can be saved. If skippered, when placed in a vacuum in the cylinder, the skippers come to the surface of the meat, and perish for want of air. The meat is then taken from the cylinder, the skippers removed, and the meat returned to the cylinder and again charged with pickle, and is again perfect.

If meat be tainted, it is placed in the cylinder and charged with a weak solution of lime; taken out, dried, and returned to the cylinder, and again charged with pickle: and then it is difficult to distinguish it from sound meat.

Hams and bacon, old, blackened and spoiled in appearance, will not take in pickle by immersion: subjected to the vacuum process they may, and in a few hours, be restored to fresh appearance, and after smoking, be equal to new ones.

Meat just killed and *warm* may be put, in midsummer, into the cylinder, and cured in twelve hours perfectly. By steeping it cannot be cured at all in warm weather; in vacuum it may be at all seasons.

Beef cured in the vacuum is done and packed in a day, and has gained its full increase. Cured by steeping, it at once loses five per cent, and takes months to regain its loss and add the usual gain arising from packing.

In hot climates, meat cannot be cured by steeping at any season; by the vacuum it can in any climate at all seasons.

As in ordinary packing, sugar, spices, or acid, may be added to the brine; but in the vacuum process they will be more perfectly taken up, and the meat more highly flavored.

The vacuum process is applicable to all kinds of meats; and all kinds of fluids may be infused into meats by it. A variety of antiseptics beside salt will preserve if they can be injected into meat; but before the meat could take them by steeping, it would be spoiled in any weather but the coldest, and in the coldest would be stale first. By the vacuum these may be injected at once, and the meat flavored by these peculiar preservative fluids.

To the West, it offers great facilities and economies, as the West is now the great meat grower and packer.

But this invention is truly a great boon to the people of the South. They now bring their pork and beef from the west. Hereafter, they may cure it for themselves. Now, they cannot, with a certainty of keeping, even in winter. With Mr. Davison's process they may cure at all seasons. Hereafter, they may cure with safety and economy. They may thus become, not only their own pork and beef growers, but they may add pork and beef to their exports. Indeed, in time, it may fairly be predicted that the region of country on the gulf of Mexico will be the only country that can export pork and beef profitably. Her climate will grow it without expense, for her pastures are ever green; and her fields may ever be filled with pork-fattening esculents. In no region does a good hog do better than in a warm one. In the cotton and sugar region every planter may himself make all his bacon, for he is now able to cure it.

To families of farmers, living in the country, it offers the means of having fresh meat during the summer without waste, for what cannot be eaten fresh can be packed, and will be the best pickled meat, as it will be recently cured.

There is yet another view in which this invention will wonderfully serve farmers and planters. By it they can impregnate wood with salt, and the wood will be indestructible; or may turn it to stone measurably, and it shall yet be flexible, and can never rot and only be lost by wear. By it shingles for houses, and posts for fences, may be made indestructible. To do this it is only necessary to impregnate them with brine thoroughly. But it may be carried still further, and the wood turned wholly to stone; and thus—the wood is first charged with salt, then with sulphate of iron, and dried, then charged with a solution of muriate of lime; this latter coming in contact with the sulphate of iron, decomposes the wood and forms an insoluble compound—sulphate of lime or gypsum. The wood then becomes stone, and yet retains toughness.

The chief merit of this apparatus is its extreme simplicity and the economy with which it operates. The solution of salt, or brine, which is used in most cases, both for curing meat and wood, is not costly. No more of it is expended than the meat or wood takes up; the balance is returned to the cistern and serves for another, or other operations. If a little sweetening matter or spices be added, the cost is not greatly increased, and for the other operations contemplated upon wood the same applies, for most of the required solutions are made from the cheapest ingredients. The apparatus, constructed of metal, will last for centuries. If it should get out of order, the rudest mechanic in the country can put it to rights. A boy of fourteen years of age can work it as well as a man. In fine, although many of the principles involved are not new ones, yet it so happens that no other apparatus heretofore invented rendered them of public utility, on account of great expense, while by this one, they can be made *practically*, *cheaply useful*.

Such are the benefits which will arise to the agricultural world from this invention. Of its power to serve commerce in ship-building, in the construction of railroads, bridges, &c., it is not here necessary to speak.

All that has been stated, is the result of actual experiment, and may be daily witnessed at Mr. Davison's packing establishment in Leroy street near West, and the truth of these representations tested. A view of the apparatus will surprise and gratify far more than the statements here made.

*New York*, *Dec.* 16, 1845. A. S.

We commend the above article on curing meat to the attention of our readers. By Mr. Stevens' request we examined the machine in question, and found it more than he represents it. We think the invention invaluable. Having received occasional letters of inquiry in reference to it, we have been induced, since Mr. S.'s article was written, to make an arrangement with the patentees to sell machines and rights to the States, or if desired, to smaller territories. In doing this we are persuaded we shall serve the public vastly more than ourselves. For prices see advertisement

## TWO ITEMS ABOUT HAY.

The extraordinary drought of the past season, in most parts of our country, has compelled many farmers to resort to some unusual expedients to procure a supply of provender. One of these I wish to bring to notice, as it may be of some use among the various "substitutes for a short crop of hay," offered in the public prints.

In the northern States, few sections, probably, suffered more severely than the northwestern part of New Jersey, comprising the county of Sussex and the adjoining portion of Warren. Much stock has been sold, and for the remainder, the prospect is, that they will have to "pick clean and close," for seldom do we find a more complete failure in the hay crop. Some never mowed their meadows at all, and those who did, got but a slim return. A friend of mine, in journeying through Sussex county, came across one farmer, whose grass crop presented about the same hopeless appearance as the rest, at the usual time of mowing. And what did he do? give it up in despair, and turn his cattle in to pasture according to the fashion? Not he! He said he always made it his business to save fodder. It was a prominent feature in his system of farming. Save it in the summer time—save it in the winter time—and *save* it at all times. If the "early rain" had failed, he had faith that the "latter" one would come. So he waited, and come it did, and with a heavy crop of hay, of two tons to the acre, cut and housed in the month of November. "In the month of November!" no doubt some will exclaim with surprise. Exactly so, friend reader, although perhaps had you passed the field when the mowing was going on, you would have been inclined to ask, with a smile, "Mister, what time this year did you commence, that you have got no further along than this, in your operations?"

But enough of this. Let us learn something by the way; and be you our teacher, Mr. Editor. I would ask, could such a result as this be depended on generally, under the like circumstances, or only on some certain soils or situations? What would be its effect on the crop of next year? It would probably be a little later; would it be just as good? Would it leave the roots more open to the killing action of the frosts, and cause the grass to die out and thus make it necessary to seed the land over again? Would the soil deteriorate under such treatment, or the reverse?

I would also take this opportunity of calling attention to another item in the treatment of grass lands, given on page 151 of Mr. Ellsworth's agricultural report for 1844. It is a novel and curious doctrine, and I should like to know the principles on which it is grounded. It reads as follows: "I will take an old piece of herdsgrass, that at present yields less than half a ton of hay per acre, and at the end of five years, without breaking up, fresh seeding, or manuring, in any way whatever, I will raise the crop to two and a half tons per acre; and this I will do by merely permitting the crop to stand until the seed will just vegetate before cutting." And the writer goes on to state, that he actually did this; having unintentionally been delayed in cutting his hay, till in the stage above mentioned, when he says he got better hay than that cut at the usual time along side of it; and at the end of five years, the gradual improvement in quantity reached two and a half tons. He accounts for it (the increase in quantity), by supposing that, when cut in its green state, the roots bleed and die out. But here is something very inconsistent with the prevalent theory on this subject. First, the quality of the hay is generally thought to be better when cut in a green, juicy state, and that if left till ripe, the hay becomes hard and woody, and difficult of mastication and digestion. But this man's experiment leads to a different conclusion. Second, he claims an increase in quantity. But the common theory is, that the oftener vegetation is cut off (under certain limits of course), the more young shoots will appear from the old stocks, and the strength of the soil, not being required to ripen the seed, will cause them to grow more luxuriantly. Third, an extraordinary improvement of the soil is also stated. But vegetable physiologists say that the greatest exhaustion of the soil takes place during the ripening of the seed. Therefore, the soil would have less taken from it, were the hay cut before this time, and of course its improvement be more rapid under any restoratives that might be applied to it. Therefore we conclude, that the results are to be ascribed to the peculiarities of the season, or some other cause than the cutting at the particular time stated.

Yet, the writer's confidence in his discovery is so great that he says he will "take a poor field, that shows only a few spears of timothy growing in it, and by these simple means engage to cut two and a half tons per acre of superior hay." And so he might, but his success would be owing to something else than that to which he ascribes it. One prominent reason I will mention in conclusion. Professor Johnston mentions in his lectures, that in the fourth or fifth year of a grass crop, the quantity of vegetable matter in the roots, is four times that contained in any hay crop that could be taken from it in any one year. The continual decay and decomposition of these roots furnish the means of increased fertility; and hence the ameliorating influence of laying land down to grass.

A. R. D.

*Hackettstown, Warren Co., N. J., Dec.* 18, 1845.

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Our correspondent shall be answered next month.

## RAISING SHEEP AT THE WEST.

An opinion has been very prevalent for a long time at the East, that sheep can be fed nearly throughout the year on the natural pastures of the prairies. Though we have never entertained this opinion ourselves, yet we have been unwilling to speak of it, without more definite information than we have hitherto had. We have made extensive inquiries on the subject recently, and have further testimony of some authentic written sources, and particularly from the editor of the Prairie Farmer, which induces us to state most explicitly, that all such opinions are entirely unfounded.

The herbage on the rolling prairie, is frequently of a choice quality for grazing purposes, abounding as it does, in a variety of nutritious grasses, the wild pea, &c., &c. But this does not usually spring up in sufficient abundance to afford a full bite before May, and the first severe frosts of autumn injure it to such an extent, as to make it entirely worthless to sheep. A few days' pasturage on it, in this condition, will kill off sheep as rapidly as rot. Excepting some three or four of the summer months, then, the prairies are worthless as sheep-walks, and other sources than the natural pastures must be provided for them. This can only be done by preparing sufficient pasturage from the cultivated grasses. On these they can subsist as on similar pastures elsewhere; but the rigors of cold weather will render ample provision necessary for the late fall, winter, and early spring months, as with us. Good grass, straw, pea or bean vines, grain and roots, are just as essential to the health, thrift, and production of sheep on the prairies, as in similar latitudes at the east.

The profits of sheep-raising at the West must, therefore, be reduced to an approximate level with those elsewhere. Then the low price of land is in their favor; here, proximity to market, and the higher price of mutton, give us a decided advantage; and the improvements made here in fences, roads, buildings, &c., may well nigh neutralize the difference in the first cost of land. Certain it is, that the advantages of sheep-raising in the West are not such as to alarm our Eastern shepherds, from an apprehension that their business will be taken out of their own hands. It is now, and probably will continue to be a lucrative occupation with our Western husbandmen, and as such, should enter largely into their arrangements; but its monopoly can nowhere be secured, we believe, on this continent.

## ANNUAL MEETING OF THE N. Y. STATE AGRICULTURAL SOCIETY.

The annual meeting of the New York State Agricultural Society will commence its session in the city of Albany on the 3d Wednesday (21st) of January, 1846, and continue two days.

The meetings for business will be held at the State Geological Rooms, commencing at 10 o'clock A. M., on Wednesday.

A public meeting will be held at the Assembly Chamber of the Capitol on Wednesday Evening, where there will be a public discussion of subjects interesting to agriculturists.

On Thursday evening, the annual Address will be delivered by the President of the Society.

Farmers, and the public generally, are invited to be present. L. Tucker, *Rec. Secretary.*

Save your Hay-Seed.—Many farmers never think of saving the offal from the cattle or horse manger, but throw it away, or into the manure heap. In either case the seed is lost, and in the last it becomes a great nuisance, if the manure be applied to hoed crops. We saved sufficient hay chaff one winter from feeding twenty-three head of animals, to stock down ten acres of meadow. Before sowing it we were careful to pick out all the weeds.

## PAULOWNIA IMPERIALIS.

Extract from the Annals of the Royal Society of Horticulture of Paris, on the subject of the flowering of this new ornamental tree, imported from Japan, as reported by M. Newmann:

"I have the honor of informing the Royal Society of Horticulture, that many of the buds of the Paulownia Imperialis, on the tree growing at the Museum of Natural History, which were formed the last autumn, and which consequently have sustained the rigor of the past winter, are at this date (April 29th) expanded into perfect flowers of a bright blue color, very much resembling those of the gloxinia caulescens. They are large and remain for many days. There are seven or eight combined in each erect panicle, around which they are suspended, and they exhale a sweet and agreeable odor. During the period when these flowers are developing their beauties, the foliage also expands, giving to this fine tree a magnificent appearance. It is a phenomenon altogether new for flower buds to be so well preserved during the winter, after having been so perfectly formed. The blue color of the flowers of the Paulownia is a peculiarity which will cause it to be greatly sought for by amateurs. This much admired tree, which grows with astonishing vigor, has formed shoots during the third year of its growth, more than ten feet in length, with leaves twenty inches in length, and twenty-two in breadth; and when growing in quite indifferent soil such as the Jardin du Roi. At Versailles, Mr. Massey has planted some trees in peat soil, one of which has formed shoots thirteen feet in height in a single season. This tree is called in Japan 'Kiri,' and a genus has been formed of it under the title of Paulownia, in honor of her Imperial Highness, the hereditary Princess of Holland.

"It is not for the beauty of its flowers alone that this splendid tree has been dedicated to this Princess, but it is for the additional circumstance that the leaf of the 'Kiri,' adorned with triplicate branches of its flowers, has long served as the emblem of the renowned hero 'Faikasama,' who is still held in the highest veneration by the inhabitants of Japan."

I send you the above translation, supposing it might be acceptable to many of your readers.

Wm. R. Prince.

*Prince's Linnæan Garden and Nurseries,*
*Flushing, Dec.* 10, 1845.

## HOGS RUNNING AT LARGE.

It is an old adage that "wonders will never cease;" and certainly we have no stronger illustration of the proverb, than is to be found in the almost universal practice of allowing swine to run at large. There ought to be a State law against it, and we would that it could be made a *national one*, that not a swine in the Union should be allowed to set his foot on other than his owner's premises. Such a law, however, unless it was confined to the *quadruped* division of the species, might result in thinning off the population of some of the emporiums of politics and official distributions, and other places of frequent resort; yet it is probable, with an equal advantage to the public, as the restriction of "the larger liberty" of their bristly compeers.

I can see no one advantage, even to the owner, in allowing a swine to go at large. His only resources are two—the garbage he may occasionally pick up, and the plunder he may secure from the neighbors' fields, gardens or store-houses. The first will be just in proportion to the filth of the neighborhood; yet it is unaccountable, that those who manufacture garbage, should not have it consumed by their own swine, and on their own ground. If it be good for anything, it is good for them there, and if not convenient to be fed at home, let it be converted into compost, or disposed of to their neighbors for feeding.

As to the other resource, the plunder from their neighbors, this is of a perfectly piratical character. Any man who turns his swine into the road with the expectation, or even probability, of their intruding on another's premises, may with more propriety go himself, and steal an equal quantity of grain, vegetables, meal or pork. The last is altogether the most respectable and economical mode of accomplishing a given object. This he does openly and above board, and takes only what can be judiciously used; while the other is taken by a sneaking, filthy, disgusting agent, who is sent on an errand, his owner is somewhat ashamed, or more probably, *afraid* to undertake personally; and who, in the accomplishment of his mission, gormandizes frequently to his own injury, eating enough at once, to last a more considerate hog two or three days; and like many of his biped kindred, trampling, soiling, and wasting what he cannot use.

The annual expense of fencing some villages against hogs, and the injury done by them in spite of all hindrances, is several hundred dollars—enough to buy half the pork consumed by the inhabitants; and all this inconvenience is suffered and put up with, that some few hoggish individuals may allow their brother swine to enjoy a free range.

If there were any advantage to the owner in this practice, besides the robberies his swine accomplish, there would be some compensation in it; but there is none. The hog that rambles abroad is subject to injury from dogs, men, carriages, and locomotives, while his gain is not equivalent, with all his filchings, to make up to his carcass the waste of his extra exercise. Any man who keeps a hog or hogs should, both by statute and public opinion, be compelled to "circumscribe the area of their freedom" to their own pen, for his own interest, as well as for decency's sake. So repugnant to a reflecting person's feelings, is the result of a hog's rambles in a neighborhood, that we have known an otherwise pretty and thriving village or town, deprived of some of its best occupants in consequence of being compelled to share its pleasant walks and shaded avenues with such company. Quirk.

**Preserving Poultry and Game Fresh.**—This delicious meat, and even small sheep, may be kept fresh two months of the winter, by first cooking, and then hanging them up to freeze in a cold room. Freezing makes the meat more tender, and it also partially absorbs the spices of the stuffing, and becomes very delicious in its flavor in a few weeks. Poultry, &c., may be preserved by having the insides taken out, and charcoal dust put in their place, and then hung up as above; also by putting it down in cold lard.

# Ladies' Department.

## COUNTRY LIFE.

"Oh Winter! ruler of the inverted year,
Thy scattered hair with sleet, like ashes fill'd,
Thy breath congeal'd upon thy lips, thy cheeks
Fring'd with a beard made white with other snows
Than those of age; thy forehead wrapt in clouds;
A leafless branch thy sceptre; and thy throne
A sliding car, indebted to no wheels—
I love thee, all unlovely as thou seem'st,
And dreaded as thou art!"
COWPER.

AT this season, when the thronged streets of our cities look like summer flower gardens, or with richly tinted silks, and splendid stuffs of every hue, bedecking winter in all the gorgeous colors of an American autumn, those who do not love Nature for her own sake, may contrast these gas-lighted streets, and the ever moving crowds, with the leafless trees, bleak fields, and rugged walks of the country; and wonder how any one, left free to choose, should stay from the delights of a city life a single day after the fall of the first leaf had rung the knell of departed summer.

We will fancy some of these gay young butterflies of fashion, whose ideas of the country were gathered in an occasional ride, or during a railroad excursion to some watering place—on calling to remembrance one of their favorite companions, whose *cruel destiny* had united her to the man of her heart, and fixed in the country—half in pity for her solitude, and half for the sake of a frolic, they agree to make her a visit, and spend a day, a *winter's* day, in the country. A bright sunny morning was chosen, and as they drove rapidly over the well beaten road, their spirits exhilarated by the pure healthful breeze, they could not help expressing the admiration they felt for the snow-capped hills, with gigantic icicles hanging from every rugged rock, and the picturesque groups of merry skaters on every little frozen stream, with their odd-fashioned fur caps, and scarlet and blue comforters.

They found their friend with her excellent husband and fine children well, and delighted to see them; were ushered into the cheerful parlor with affectionate haste, and warm welcome—sincere as warm—for out of the chilling influence of fashionable life, where the feelings are too often frittered away upon crowds for whom one cares not, the heart has room to expand, and love dearly where it loves at all; and closely does it enfold the favored few who find footing there. The morning passed quickly and merrily away in admiring "Cousin Mary's" winter arrangements, and talking over old times and scenes. The plentiful, but unfashionably early dinner, the produce of their own farm and dairy, was served with exquisite neatness, and excellently dressed; they did not know how, for the short absence of their charming hostess had not been noticed. They visited the dairy, and pronounced it perfect; the poultry-yard, Mary's peculiar care; and the small but well-filled green house, which opening from the parlor, imparted, by its tasteful arrangement, an air of elegance to the handsome room. The loveliest flowers were gaily plucked to be carried to town as trophies of their pilgrimage to "the country;" and while preparing to return in time to allow the young moon to light them home, they truly declared, they had never passed a happier day—and promising to "come soon again," took a merry leave of their hospitable host and hostess. While sweeping round the lawn and through the fine old avenue of giant oaks, they agreed that Cousin Mary had not made such a bad choice after all, for with such an establishment, even winter in the country might be tolerated!

This was the bright side of an unknown picture, and they had not gone far before the scene changed. Huge masses of clouds obscured the horizon, and threatened a storm; the bright noon-day sun had thawed the roads, through which the heavy wagons had ploughed deep ruts; and these a keen frost had hardened into frightful jolts, in going over one of which a spring broke, and the gay party were obliged to walk to the nearest smith, where they waited, shivering in the cold night air, until the carriage was brought up and repaired. By the time they were again on the road it was dark as Erebus—not a star to be seen; the moon had gone down, and the sharp wind blew the fast falling snow in their faces.

At last they reached home, where Papa and Mama had become uneasy, and were waiting their return in anxious impatience, blaming them for staying so late. Chilled and out of humor they took their tea, and then related the chapter of sad accidents. The sisters were frightened, and the brothers came to the conclusion that they would never be again entrapped into the country in cold weather; "the town was good enough for them." All the charms of the country had vanished, and they declared that it was a shame for such a pretty girl as Cousin Mary, so clever and well educated, to be buried alive in that way; and that she had made a great mistake when she threw herself away upon a farmer, who would not spend the winter in town. They acknowledged that he had received a classical education, and was an intelligent, generous, and fine-looking fellow; but to live *out there* was too bad.

But what was *poor* Cousin Mary doing all this time? As soon as her guests had departed, whose sacrifice to friendship she by no means appreciated—how could she when she was so stupid as to love the country for its own sake, as well as for that of the *clodpole* she gloried in calling her husband—she returned to her parlor, arranged the tea table, closed the curtains, and then by the bright light of the fire, in the fulness of her happy heart, she romped with her lovely boy; sung her sweet baby to sleep, and sat down to wait until her husband should come in to tea. Presently he came, glowing with health and happiness—and shaking the snow from his hair, predicts fine sleighing on the morrow. They talked long and earnestly of the visit they had received, and good-naturedly, but sincerely regretted that their young friends, who they thought were made for better things, should be doomed to waste their energies in a city life; while they congratulated themselves upon their own far happier lot. The day's cares were over; the table drawn closer to the fire; the lard lamp diffused its clear, soft light through the spacious room, while with reading, music, and cheerful, instructive conversation, the evening glided imperceptibly away. The wind whistled around the house and groaned in the trees;

but the storm was unheeded by them, save when they thought of some neighbor less comfortably protected from the inclemency of the season. For their own lot they were thankful; there was a deep felt sense of gratitude for their many unmerited blessings; "a sober certainty of waking bliss," which they could scarcely imagine to exist in the heartless bustle of a city life, and which they would not have exchanged for any other station however exalted. They truly felt that

> " God made the country and man made the town.
> What wonder then that health and virtue, gifts
> That can alone make sweet the bitter draught
> That life holds out to all, should most abound
> And least be threatened in the fields and groves!"

This is no fancy sketch. There are thousands, who are surrounded by all the luxuries and elegances of life, and calculated to shine in any sphere, and who have feelings and tastes refined enough to enjoy the only truly independent life—that of a man, who owning and cultivating the soil he stands upon, and unshackled by ceremony, except such as good feeling and unselfish habits produce, feels that he is free, and blesses God that he is so. The charms and the pleasures of a country life cannot be enumerated, were volumes filled with the catalogue. Who has ever seen a snow storm without being entranced by its beauty? How noiselessly the feathery flakes descend, and cover with the mantle of purity, all that was dark and barren in the prospect. How exquisite the fairy frostwork on every spray; and when the tempest has sighed itself to sleep, how beautiful and delicate the long drifts on the fields and hill sides, curling over with their own weight like waves of the sea, and taking in their shadowy curves, the same green hue; or settling in heavy masses on the evergreens, and weighing them down in graceful sweeps, as they stand out in bold relief from the dark background. Then the merry sleigh bell; the gay parties; the pleasant visits to far off friends; and it is so invigorating, after being shut up during the storm, to feel the pure healthful air rushing past, as one is borne rapidly along over the smooth white roads.

But then comes a thaw, followed by a cold driving rain that freezes as it falls, encrusting every object with its icy robes. The sheets of water dashing against the windows almost obscure the light of day; everything without is bleak and dreary, and within doors no one wishes to venture beyond the precincts of a blazing fire. All are glad to betake themselves to early rest, to sleep away the cheerless hours, feeling as if an air of gloom pervaded even the snug bedrooms. Morning steals upon them calm and bright, as if the wind had never learned to blow, and with the rising sun such a scene of inimitable splendor bursts upon their sight, as they had not dreamed of. The *Storm King* had been abroad, and all nature, to do him honor, is dressed in his gorgeous livery of robes embroidered with living gems; the meanest slaves in his train, the withered herbage and dry sticks, are decked in an array of jewels that the proudest earth-born monarch might envy. His sceptre is some tall pine, each twig and leaf glittering with diamonds of the purest lustre, multiplied indefinitely by the passing breeze which shakes them off with lavish profusion as it bends its majestic head, as if in mock reverence to the delighted beholder; his throne is a rock-crested hill top, robed in ice, from whence comes crashing down with deafening noise, some rough crag, or huge tree, the patriarch of the forest, that, after resisting the tempests of centuries, at last in its old age, too proud to bend, yields to a storm less mighty than hundreds that have preceded it. The garden in which Aladdin was so cruelly immersed by the wicked magician, where the fruit was rubies, topazes, and sapphires, and the leaves of the trees were emeralds, never, even in my childish fancy, rivalled the glories of sunrise after an ice storm. Who ever witnessed this scene of exquisite splendor without feeling what has been so beautifully said by Nature's truest poet,

> " Is winter hideous in a garb like this?"

E. S.

* * *

Milking.—I don't know anything about which folks are so careless in the winter, or that is more disagreeable to us women, than the manner in which the milking is done. Many farmers do not bed their cows at all, and the consequence is, they lie down in their filth, and get up in the morning with bags too shocking to look at. Set a boy or man then to milking, and nine out of ten will not half clean the cow's bag before they commence; so the dirt falls into the pail, and by the time they have finished stripping the cow, the milk is a nasty mess indeed!—hardly fit to give a pig, much more to be brought into a decent dairy. Pah! it makes me sick to think of the thing! Who would drink it if they knew this? or use it in any cooking? or make butter from it? If it was not for being called a scold, or a Mrs. Caudle, I would say I wish the men who treated cows so, had their own faces daubed every morning—I won't add in what.

> If milk you'd have both clean and sweet,
> Each night before you rest your feet,
> Make for your cows a straw-bed neat.

Dolly Homespun.

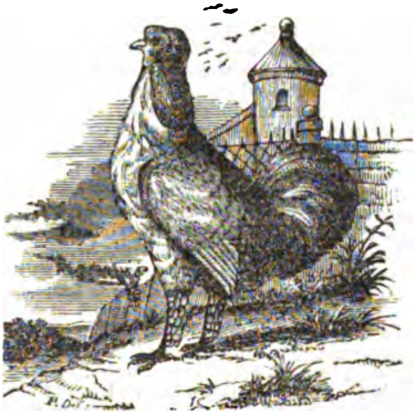
* * *

Making Stocking Yarn.—Many has been the time that my mother has come to me, saying, " Johnny, get off the dye-tub," when comfortably seated upon it in the corner of the old stone chimney, drying my stockings, after a day spent in sledding wood on a Saturday, or during school vacation. Yes, the old dye-tub stood in the corner twenty-four years ago; and when I went home last November, there it stood, as if it had never been moved since I left. It holds precisely seven gallons, and when a fresh dye is to be set, it is filled two-thirds full of chamber ley, with six ounces of best Spanish-float indigo, put into a small bag, made of cotton cloth, tied up and thrown in for the dyeing. Here it lies in the liquor which is kept at a moderate heat, for several days, when the indigo is squeezed gently with the hand, and the wool then put in, and occasionally stirred and examined from day to day, until the color suits. The wool is now taken out of the liquor, and wrung clean of it, and then put out to dry, after which it is mixed—one part a beautiful, deep indigo blue, and two parts white wool. Next it is carded at the factory, and then spun on a hand wheel in my mother's old kitchen, and thus girls are never out of knitting-yarn from one year's end to the other. John Dolittle.

# Boys' Department.

## SILKY FOWL.—Fig. 6.

Here, boys, you have a funny looking fellow, indeed. Mr. Bement, in his Poulterer's Companion, says, "This bird, by modern writers, is considered a species, rather than a variety. It is of good size, and the whole body is covered with feathers, the webs of which are disunited somewhat in the manner of some of the feathers of the ostrich and the peacock, and appear some like hairs and glossy silk. The legs are covered on the outside to the toes. Individuals of this sort differ in respect to color, as in other varieties; some are pure white, and others of a dingy-brown; and all of them with dark-colored legs, nor are the legs always feathered. This bird is indigenous in Japan, where it is much prized, and is also found in China, where they are frequently offered in cages for sale to the Europeans. The skin and bones are said to be black, which gives it, when cooked, an unfavorable appearance, on which account it is in disrepute."



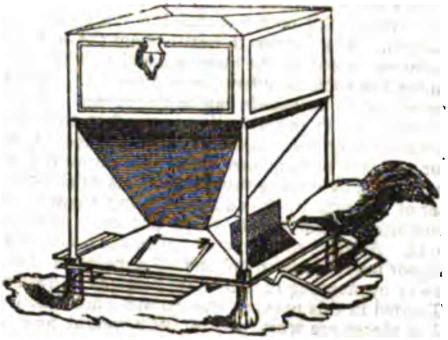
## A CHAPTER ON GRASSES.—No 1.

*Things which Farmers' Boys ought to know.*—Among the many things which farmers' boys should be familiar with, not the least important appears to be a knowledge of the names, properties, and uses, of the plants they cultivate; for why should they, with eyes to see, and understandings to comprehend the wonderful variety and beauty of the vegetable creation, which comes under their daily notice, be as ignorant of their nature as the animals for whose use they are planted and gathered? It is a bold assertion, but perhaps not far from the truth, that farming is rapidly advancing to the rank of a *science;* but if it is ever to be so considered, it must be by farmers becoming acquainted with those sciences, without whose aid they can never hope to be more than mere tillers of the soil. At the head of these are chemistry, mineralogy, and botany. If my very humble efforts in these numbers to awaken an interest in the pursuit of natural science among the younger members of the agricultural community are crowned with the least success, and tend to induce some one better qualified for the task to continue what I have begun, I shall have reason to feel peculiarly gratified.

Of the natural Order *Gramineæ,* or true grasses, there are believed to be about 2,000 species, or nearly one-twentieth part of the whole number of flowering plants, known at present to botanists. Of these a large proportion are, directly or indirectly, useful to man; and the almost universal distribution of grasses wherever the human foot has trod, seems to warrant the assertion, that they are the most important of any known tribe of plants—if not more so than all other groups of vegetable productions; the nutritious herbage, and the farinaceous albumen of the seeds, constituting the chief support of man, and the herbivorous animals, whether domesticated, or left free to be hunted at will, for food or raiment. Generally humble in appearance, and low in stature—seldom rising more than a few feet from the ground—there is little to remind one of their vast importance in the scale of organized creation—the bamboos, and a few other tropical species, alone rising to the height of trees. They grow in every soil and climate—on land and in water—in the torrid zone, and the frozen wastes of Spitzbergen—and on the rocky declivities of our northern Andes, they flourish, almost on the confines of the region of eternal snow. Under the equator they grow, like other plants, singly, or nearly so; while in the temperate climes of the northern hemisphere, they cover vast districts, to the almost total exclusion of every other species of vegetation.

My subject being slightly scientific, I shall write in very short chapters, for fear of tiring the boys with dry matter and hard names, so this will do for the present. In my next I shall explain what *true grass* is, and give some account of its different varieties. My articles will require some study from the boys; but inasmuch as I intend to make them *very wise* on these matters before we get through, I hope they will bear it patiently, and continue with me to the end. M. G.

## POULTRY FEEDING FOUNTAIN.—Fig. 7.



Nothing is more neglected in their food and drink, at this season of the year, than the poultry. Too many farmers leave their fowls to pick up a scanty existence from the dung-heap; and, as for water, they do not think of providing it at all, though all the ponds and aqueducts may be frozen up, rendering it impossible for the poor birds to get a drop to quench their burning thirst; for thirst they have in winter as well as summer—just as much, boys, as you. This cut will be explained in our next.

## FOREIGN AGRICULTURAL NEWS.

By the steam-ship Acadia, we are in receipt of our foreign journals to December 4th.

MARKETS.—*Ashes* were in limited demand. *Cotton* much depressed, and a further reduction of ¼d. per lb. has taken place. The stock on hand at Liverpool on the 1st Dec. was 926,000 bales, against 786,000 same time last year. It is within ⅛d. as low now as it was ever known. *Flour* has undergone a decided decline. *Beef*, little alteration. *Pork*, dull. *Cheese*, a slight decline, but a good demand. *Naval Stores*. The sales in these were large, and at good prices. *Rice and Tallow*, nothing particularly worthy of notice. *Tobacco* firm with an upward tendency. *Wool* did not go off well at the late sale, most of it being put up in a very slovenly and imperfect manner. We must pay more attention to this matter if we wish to command fair prices in the British market.

*Money* was in good demand, and a further advance of the rate of interest is anticipated. From 3 to 5 per cent. was asked.

*Trade* in the manufacturing districts was dull, and undergoing curtailment.

*Failure of the Potato Crop.*—The accounts of the failure of this crop are so fluctuating that we can hardly give an opinion respecting it. There is no doubt, however, that the loss has been grossly and wickedly exaggerated, for the purpose of aiding speculators. We may say the same of wheat and other products.

*Emigration to the United States.*—Great preparations are making in Germany and Switzerland to emigrate to America the coming season. Food is scarce and high there; besides, the people being much persecuted for their religious opinions, desire to live where they can choose their own road to Heaven, and have plenty to eat while travelling thither.

*Professor Liebig's Opinion on the Potato Disease.*—The researches I have undertaken upon the sound and diseased potatoes of the present year have disclosed to me the remarkable fact, that they contain in the sap a considerable quantity of vegetable casein (cheese) precipitable by acids. This constituent I did not observe in my previous researches. It would thus appear that, from the influence of the weather, or generally speaking, from atmospheric causes, a part of the vegetable albumen which prevails in the potato has become converted into vegetable casein. The great instability of this last substance is well known, hence the facility with which the potato containing it undergoes putrefaction. Any injury to health from the use of these potatoes is out of the question, and nowhere in Germany has such an effect been observed. In the diseased potato no *solanin* can be discovered. It may be of some use to call attention to the fact that diseased potatoes may easily, and at very little expense, be kept for a length of time, and afterwards employed in various ways, by cutting them into slices, of about a quarter of an inch thick, and immersing them in water, containing from two to three per cent. of sulphuric acid. After twenty-four or thirty-six hours, the acid liquor may be drawn off, and all remains of it washed away by steeping in successive portions of fresh water. Treated in this manner, the potatoes are easily dried. The pieces are white and of little weight, and can be ground to flour and baked into bread along with the flour of wheat. I think it probable that the diseased potatoes, after being sliced and kept for some time in contact with weak sulphuric acid, so as to be penetrated by the acid, may be preserved in that state in pits. But further experiments are necessary to determine this. It is certain, however, that dilute sulphuric acid stops the progress of putrefaction.

*Protection of Tender Roses.*—One of the best plans consists in pegging the shoots close to the ground, after the bloom is destroyed in the autumn, and afterwards covering them with spruce branches, fern, or any dry litter that may be at hand. This is laid on very thinly, barely sufficient to hide the branches, and yet, although we had the thermometer at zero last winter, I did not lose a single plant, not even among the Fairy Roses, which many of the rose growers experience great difficulty in preserving in well-protected pits and frames. My roses are planted in an exposed situation, on a rather retentive soil, so they have no local advantages. They have been in excellent bloom from the middle of May up to the end of October; and really I do not know a more interesting appendage to a garden than a few beds of these perpetual blooming favorites.—*Gar. Chron.*

*Keeping Fruit.*—Numerous inquiries having, from time to time, been made relative to the best methods of preserving apples and pears during winter, I will mention one or two particulars necessary in the storing of these, and the kind of house best adapted for securing a prolonged supply. The house, in the first place, should be ventilated in the ceiling, as from the moment of storing until the apple is absolutely decayed, an organic transposition of its parts is constantly going on; therefore it is important to allow the confined air of the room, which becomes highly impregnated with the effluvia, to pass off. Any animal or vegetable substance in a sound state is more liable to become diseased when placed in an atmosphere impregnated with effluvia; but again, on the other hand, it is well known that apples and pears shrivel and lose their flavor when exposed, particularly in spring, to a free admission of external air. This may be attributed not so much to the mere admission of air, as to the increased temperature which the air in spring has attained. The increased heat of the atmosphere then dries up the juices of the apple and destroys its flavor; in fact, fruit so exposed becomes tasteless and tough. Now it appears to me quite necessary to admit air or rather to allow the impure air to pass off quietly at the ceiling without creating a complete current in the house, and to exclude the admission of external air at the doors and windows as much as possible, to keep down the temperature of the room, for on this a great deal depends. Could the same kind of temperature be maintained in spring as during winter, there can be no doubt that fruit would keep much better, and be better flavored. When pears are just arriving at perfection, they may be greatly improved in flavor by being placed in a warm room for a few days before they are eaten. The increased temperature promotes more rapidly and perfectly the transposition of the juices into the saccharine state.

*Air Churn.*—The Bishop of Derry has invented an atmospheric churn. Instead of the present unscientific mode of making butter by churning, his lordship accomplishes this measure by the simpler manner of forcing a full current of atmospheric air through the cream by means of an exceedingly well-devised forcing pump. The air passes through a glass tube connected with the air-pump, descending nearly to the bottom of the churn. The churn is of tin, and fits into another tin cylinder, provided with a funnel and stop-cock, so as to heat the cream to the necessary temperature. The pump is worked by means of a winch, which is not so laborious as the usual churn. Independently of the happy application of science to this important department of domestic economy, in a practical point of view it is extremely valuable. The milk is not moved by a dasher, as in the common churn; but the oxygen of the atmosphere is brought into close contact with the cream, so as to effect a full combination of the butyracious part, and to convert it all into butter. On one occasion the churning was carried on for the space of 1 hour and 45 minutes, and 11 gallons of cream produced 26 lbs, of butter.—*Globe*,

# Editor's Table.

AN ESSAY UPON THE WHEAT FLY, AND SOME SPECIES ALLIED TO IT. By Asa Fitch, M. D., pp. 32, octavo, with a colored engraving of eight figures.—We hail this pamphlet as another evidence of the gradual advancement of an improved agriculture with the public mind. Dr. Fitch seems to have treated the subject of the Wheat Fly and the species resembling it, with sufficient minuteness, and gives us a more clear and definite idea of its history, habits, and the means of arresting its ravages than we have yet met with. We hope his work will have an extensive circulation among the farmers; as it might be the means of leading many of them to habits of observation of insects, which would hereafter greatly benefit the community. We wish the State Ag. Society would purchase the copyright of this pamphlet from the author, and issue a large edition for distribution among the County Societies. We are much obliged for the copy sent us.

THE HISTORY OF SILK, COTTON, LINEN, WOOL, AND OTHER FIBROUS SUBSTANCES; Including observations on Spinning, Dying and Weaving. Also, an account of the Pastoral Life of the Ancients, their Social State and Attainments in the Domestic Arts—Illustrated by Steel Engravings, pp. 464, octavo. Harper & Brothers, New York.—We have looked through this highly curious and useful book with much pleasure, and find it condenses a mass of information on the subjects of which it treats, which one might seek in vain for in an extensive library. In comparing the agriculture and manufactures of ancient times with those of our own day, we find that very many, even in the most humble circumstances, are enjoying, in their daily food and raiment, what princes might have formerly coveted in vain. This History, of the Messrs. Harper, is a beautiful work for holiday presents among the industrial classes, and we recommend it to Agricultural Societies in making up their assortment of books for premiums to be distributed at their annual meetings.

THE ARTIST, THE MERCHANT, AND THE STATESMAN, Of the age of the Medici and of our own Times. In two volumes. By C. Edwards Lester. Price $1 25. Paine & Burgess, 67 John St.—These volumes under review, are devoted to the Autobiography of Powers, the American Sculptor, whose inimitable works have already placed him higher in the niche of fame than any other artist of ancient or modern times. Hiram Powers is a man of *power*—a wonderful creature of instinctive genius, and with modesty equal to his worth. The world is sounding with praises of his statues of the human form divine; but if we can ever see him, we intend to get him to chisel a horse, an ox, and some other domestic animals. The son of a Vermont farmer, he is just the man for this; nor will it lessen his dignity to do works of this kind. Many are the anecdotes we have heard of Powers from his associates; all these, and a thousand more, has Mr. Lester given us in this autobiography, clothed in his usual racy, slapdash style. This will be a very popular book; every American ought to read it, old or young—it will make them proud of their countryman, proud of their country, and give them an inkling of the fame that ultimately awaits us, as a nation, in the fine arts. Europeans will now cease their sneers. These volumes are embellished with portraits of Powers and Americus Vespucius.

FIRE PROOF SAFES.—Our readers are referred to the advertisement of Salamander Safes. We have examined them thoroughly, and believe them to be a superior article, highly desirable to preserve money, plate, jewelry, and valuable papers from fire and burglars. Planters and farmers doing much business ought to be provided with them. We have one for exhibition at our warehouse, and will receive orders for them of any required size.

THE YOUTH'S CABINET.—This is a beautiful monthly periodical, of 32 pages, octavo. Price $1 a year. It is got up something in the style of the Penny Magazine, and is highly deserving the patronage of the public. Saxton & Miles, publishers, 205 Broadway, New York.

ADDRESS UPON INSECTS INJURIOUS TO VEGETATION. By Noyes Darling.—This Address was delivered before the New Haven Horticultural and Agricultural Societies, at their late meeting in October, and is published in the Transactions of the Society for the year 1845. Mr. Darling has been long and favorably known as a writer on Insects, and his Address is deserving an attentive perusal. The little creatures do infinite mischief, and the best means of extirpating them and guarding against their ravages ought to be carefully studied by all agriculturists.

THE WHEAT CROP OF 1845.—The wheat crop of the United States for this year, is estimated at 125,000,000 of bushels. The wheat crop of 1842, which was the largest ever previously raised in this country, was 103,000,000. The increase of 22,000,000 shows not less the large additional amount of land brought under cultivation than the genial character of the last summer. The crop of Michigan is comparatively larger than that of any other State in the Union. With a population of not over 400,000, she raises this year at least 7.000,000 bushels of wheat. The quality is also of the very best.—*Albany Argus.*

THE MYSTERIES OF TOBACCO. By the Rev. Benjamin J. Lane. Wiley & Putnam. Price 37½ cents. Our readers are pretty well aware of our utter detestation of this nasty and odious weed. How any one can use it in any shape or form is utterly incomprehensible to us. This treatise shows its filthiness and injurious tendencies, in a very full and complete manner. We wish it could be placed in the hands of every head of a family in the United States; we should then hope for some reform in the use of this vile weed. Tobacco is the direct cause of insanity, and many other diseases too fearful to mention. If any one doubts this, let him read the opinions of the most eminent German physicians, the country where tobacco is more universally used, and especially in the way of snuffing and smoking, than any other.

ACKNOWLEDGMENTS.—To Hon. W. L. Goggin, President, for his Address before the New London, Va., Ag. Society; to an unknown friend, for the Address of the Hon. Josiah Quincy, Jr., at the late Show of the N. Y. State Ag. Society.

ROAD HORSES.—We desire to call attention to the superior horses advertised in this paper. Such animals are rare, and especially at the prices offered. They would be of great value in any breeding stud for roadsters.

DORKING FOWLS.—We would inform the numerous applicants for these fowls, that no orders can be supplied before next fall. The price will uniformly be $5 per pair.

TO CORRESPONDENTS.—John B. Miller, Thomas Affleck, B. L. C. Wailes, Philetus Philips, Wm. Partridge, John P. Norton, Coke, M. W. Philips, S. H. R., Solon Robinson, and A Constant Reader are received. We cannot agree with the latter in his opinion of the African maize. It has been frequently noticed in this Journal, through the N. Y. Farmers' Club.

TO A SUBSCRIBER.—The common kind of salt, such as can be purchased from 20 to 25 cents per bushel, is the kind used for agricultural purposes. The part of the cargo lying on the ship's bottom, sometimes gets quite dirty, and may then be had at a still lower price.

## REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, DECEMBER 24, 1845.

| | | | | |
|---|---|---|---|---|
| ASHES, Pots, | per 100 lbs. | $3 87½ | to | $3 94 |
| Pearls, | do. | 4 12½ | " | 4 19 |
| BALE ROPE, | lb. | 5 | " | 7 |
| BARK, Quercitron, | ton, | 26 00 | " | 26 50 |
| BEANS, White, | bush. | 1 12 | " | 1 25 |
| BEESWAX, Am. Yellow, | lb. | 28 | " | 33 |
| BOLT ROPE, | do. | 12 | " | 13 |
| BONES, ground, | bush. | 40 | " | 55 |
| BRISTLES, American, | lb. | 25 | " | 65 |
| BUTTER, Table, | do. | 16 | " | 25 |
| Shipping, | do. | 9 | " | 13 |
| CANDLES, Mould, Tallow, | do. | 9 | " | 11 |
| Sperm, | do. | 25 | " | 38 |
| Stearine, | do. | 20 | " | 25 |
| CHEESE, | do. | 6 | " | 10 |
| COAL, Anthracite, | 2000 lbs. | 5 00 | " | 6 00 |
| CORDAGE, American, | lb. | 11 | " | 12 |
| COTTON, | do. | 6 | " | 10 |
| COTTON BAGGING, Amer. hemp, | yard, | 13 | " | 14 |
| Kentucky | do. | 12 | " | 13 |
| FEATHERS, | lb. | 28 | " | 34 |
| FLAX, American, | do. | 7 | " | 8 |
| FLOUR, Northern and Western, | bbl. | 5 50 | " | 5 87 |
| Fancy, | do. | 6 50 | " | 6 87 |
| Southern, | do. | 5 50 | " | 5 87 |
| Richmond City Mills, | do. | 7 00 | " | 7 25 |
| Rye, | do. | 4 25 | " | 4 38 |
| GRAIN—Wheat, Western, | bush. | 1 20 | " | 1 25 |
| Southern | do. | 1 15 | " | 1 25 |
| Rye, | do. | 80 | " | 81 |
| Corn, Northern, | do. | 80 | " | 83 |
| Southern, | do. | 73 | " | 75 |
| Barley, | do. | 65 | " | 67 |
| Oats, Northern, | do. | 46 | " | 47 |
| Southern, | do. | 38 | " | 40 |
| GUANO, | 100 lbs. | 2 25 | " | 3 00 |
| HAY, in bales | do. | 95 | " | 100 |
| HEMP, Russia, clean, | ton, | 180 00 | " | 190 00 |
| American, water-rotted, | do. | 105 00 | " | 185 00 |
| American, dew-rotted, | do. | 75 00 | " | 125 00 |
| HIDES, Dry Southern, | lb. | 8 | " | 10 |
| HOPS, | lb. | 20 | " | 35 |
| HORNS, | 100. | 1 00 | " | 7 00 |
| LEAD. | lb. | 4 75 | " | 4 88 |
| Sheet and bar | do. | 4¾ | " | 5¼ |
| MEAL, Corn, | bbl | 4 25 | " | 4 37 |
| Corn, | hhd. | 18 00 | " | 18 25 |
| MOLASSES, New Orleans, | gal. | 23 | " | 29 |
| MUSTARD, American, | lb. | 16 | " | 31 |
| NAVAL STORES—Tar, | bbl. | 2 12 | " | 2 25 |
| Pitch, | do | 1 25 | " | 1 38 |
| Rosin | do. | 1 00 | " | 1 25 |
| Turpentine, | do. | 3 50 | " | 5 00 |
| Spirits Turpentine, Southern, | gal. | 63 | " | 75 |
| OIL, Linseed, American, | do. | 67 | " | 68 |
| Castor, | do. | 57 | " | 68 |
| Lard, | do. | 70 | " | 75 |
| OIL CAKE, | 100 lbs. | 1 75 | " | 1 88 |
| PEAS, Field, | bush. | 1 50 | " | 2 00 |
| PLASTER OF PARIS, | ton. | 2 50 | " | 2 62 |
| Ground, in bbls., | of 300 lbs. | 1 12 | " | 1 25 |
| PROVISIONS—Beef, Mess, | bbl. | 7 00 | " | 9 00 |
| Prime, | do. | 4 50 | " | 5 50 |
| Smoked, | lb. | 6 | " | 9 |
| Rounds, in pickle, | do. | 4 | " | 6 |
| Pork, Mess, | bbl. | 12 00 | " | 14 12 |
| Prime, | do. | 9 00 | " | 11 00 |
| Lard, | lb. | 8 | " | 8½ |
| Bacon sides, Smoked, | do. | 3 | " | 4 |
| In pickle, | do. | 3 | " | 4 |
| Hams, Smoked, | do. | 6 | " | 10 |
| Pickled, | do. | 4 | " | 7 |
| Shoulders, Smoked, | do. | 5 | " | 6½ |
| Pickled, | do. | 4½ | " | 5 |
| RICE, | 100 lbs. | 4 25 | " | 5 25 |
| SALT, | sack, | 1 35 | " | 1 40 |
| Common, | bush. | 20 | " | 35 |
| SEEDS—Clover, | lb. | 10 | " | 11 |
| Timothy, | 7 bush. | 14 50 | " | 21 00 |
| Flax, rough, | do. | 10 00 | " | 10 50 |
| clean, | do. | 11 00 | " | 11 50 |
| SODA, Ash, cont'g 80 per cent. soda, | lb. | 3 | " | 3 |
| Sulphate Soda, ground, | do. | 1 | " | — |
| SUGAR, New Orleans, | do. | 5 | " | 8 |
| SUMAC, American, | ton, | 35 00 | " | 37 50 |
| TALLOW, | lb. | 7 | " | 8 |
| TOBACCO | do. | 3 | " | 7 |
| WHISKEY, American, | gal. | 26 | " | 27 |
| WOOL, Saxony, | lb. | 35 | " | 50 |
| Merino, | do. | 30 | " | 35 |
| Half-blood, | do. | 25 | " | 30 |
| Common, | do | 20 | " | 23 |

## NEW YORK CATTLE MARKET—Dec. 22.

At Market, 1300 Beef Cattle (350 from the South), 75 Cows and Calves, and 2500 Sheep and Lambs.

PRICES.—Beef Cattle—An active demand has prevailed, during the week, without, however, any material variation in price, which, for inferior and middling qualities, may be quoted at $4.50a$5.00 and $5.50 and $6 25 for good and prime; though a small lot on Saturday, brought $6.50. 200 left over.

COWS AND CALVES.—All at market taken at prices ranging according to quality, from $15 to $30.

SHEEP AND LAMBS.—We quote $1 25a$3.50. A few extra at $6. All sold.

LOOSE HAY—Is held at $1.12½ and considerable sales making.

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REMARKS.—*Ashes* quiet. *Cotton* is dull at a reduction of ¼ of a cent per lb. Export since 1st September last, 398,698 bales; same time last year, 377,768; same time year before, 209,580. *Flour* dull, at a great reduction of prices. The large advance last month was totally unjustified, and was got up mainly by a combination of speculators on both sides of the water. *Wheat* and most kinds of grain have fallen, but are in good demand. *Hay* brisk. *Naval Stores* firm. *Provisions* of all kinds in fair request. *Molasses*, *Sugar*, *Rice*, and *Tobacco*, little change. *Wool* rather stagnant.

*Money* continues scarce, and is difficult to be had at legal rates except on the best paper.

*Stocks* much depressed on account of the Oregon WAR—*videlicet*—the political humbug and terror of the day.

*The Weather* for most of the month has been of the snug winter kind. Such late crops as have remained out at the south have been well husbanded, and the year's business on the whole may be considered highly advantageous to the Farmer and Planter.

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TRANSACTIONS OF THE N. Y. STATE AG. SOCIETY.—The answer of "A Member" to an article in the December No. of the Cultivator came to hand too late for the January No.; I have therefore issued it in an Extra, published by myself. I respectfully call the attention of all candid persons to it, as the writer makes out a strong case against the editor of the Cultivator on one point. What he will have to say on others I have no means of knowing. By his request I have issued a large edition that his friends can have it *gratis*, *in any quantity*, *for distribution*. I recommend their circulating it extensively in every direction, the more especially since myself and Saxton & Miles have become the innocent victims of vexatious suits, simply because I *dare* to be INDEPENDENT and HONORABLE in my conduct. A. B. ALLEN.

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## CHEAP PLOWS FOR THE SOUTH.

These plows are made in a far superior manner to any of the same kind ever sent from this market. The woods are of well selected white oak, and got out by Patent Machinery, and are all exactly alike, so that if one part wears out, or gets broken, it can be instantly replaced by a duplicate. It is the same also with the iron parts. The whole material of these plows is warranted of a superior kind.

| | |
|---|---|
| Price of No. 10½ Plow | $2.00 |
| " 11½ do | 2.25 |
| " Corn Plow | 2.50 |
| " No. 19½ | 4.50 |
| " No. 20 | 4.50 |
| " J. M. & Co. No. 2, with coulter | 3.50 |
| " " 3, do | 4.50 |
| " " 4, do | 5.00 |

A liberal discount from the above prices to dealers.

A. B. ALLEN, 187 Water Street, N. Y.

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| *Albany, N. Y* | E. H. Pease. |
| *Syracuse, N. Y* | Stoddard & Babcock and L. W. Hall. |
| *Auburn, N. Y* | J. C. Derby & Co. |
| *Rochester, N. Y* | C. F. Crossman. |
| *Buffalo, N. Y* | J. H. Butler & Co. |
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| *Norfolk, Va* | J. Vickery, Jr. |
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## GENUINE EAGLE PLOWS.

The subscriber is sole Agent in this city for these celebrated plows, and any one else pretending to keep them has only a miserable imitation; the public, therefore, are cautioned to be on their guard against deception. The following brief abstract from the circular of the manufacturers, Messrs. Ruggles, Nourse & Mason, will give some idea of the public estimation of their merits.

In each year, 1842 and 1843, the Agricultural Society of Essex County, Mass., offered premiums for the best plows, and instituted full investigation and trials, which resulted each year, in awarding to Ruggles, Nourse & Mason, the highest premium. The judging Committee for 1843, in their printed Report, say, "our attention was called to the quality of the castings on the plows of Ruggles & Co., their finish and durability. Their appearance is certainly more perfect than anything we have elsewhere seen. The process of chilling the point, the entire edge of the share and flange or base of the landside, gives a permanence and durability to the work that renders it of a decidedly superior character," "and we think there is no hazard in saying, that the value of the parts thus made, is more than doubled by the process."

The following Table shows the number of premiums awarded to competitors contending for the prizes before the several different societies named, and the number awarded to those who used plows made by Ruggles, Nourse, & Mason.

| *Name of Society.* | *Year.* | *No. of prem's offered.* | *No. of premiums awarded as above.* |
|---|---|---|---|
| Essex County, Mass., | 1843 | 10 premiums, | 9 premiums, |
| do do do | 1844 | 8 do | 6 do |
| do do do | 1845 | 11 do | 11 do |
| Middlesex do do | 1843 | 8 do | 5 do |
| do do do | 1844 | 8 do | 5 do |
| do do do | 1845 | 8 do | 6 do |
| Wor'ster do do | 1840 | 9 do | 9 do |
| do do do | 1841 | 9 do | 9 do |
| do do do | 1842 | 9 do | 9 do |
| do do do | 1843 | 12 do | 12 do |
| do do do | 1844 | 11 do | 7 do |
| do do do | 1845 | 10 do | 8 do |
| Plymouth do do | 1844 | 6 do | 6 do |
| do do do | 1846 | 7 do | 4 do |
| Bristol do do | 1845 | 11 do | 7 do |
| Hampden do do | 1844 | 3 do | 2 do |
| do do do | 1845 | 6 do | 3 do |
| Berkshire do do | 1845 | 8 do | 7 do |
| Barnstable do | 1845 | 4 do | 3 do |
| Hartford do Conn., | 1845 | 3 do | 3 do |
| Windham do Vt., | 1845 | 4 do | 2 do |
| Dutchess do N.Y., | 1845 | the highest. | the highest. |

It is but just to remark that the competition was as great between the different plow-makers as between the plowmen; and, in most instances, noted, the plows above-named were strongly contested by Prouty & Mears' (so called) "Centre Draught," Martin's imitation of our "Eagle" plows, and that in *every case*, the first premiums were awarded to plowmen, who performed their work with plows made by Ruggles, Nourse & Mason.

A. B. ALLEN, 187 Water Street, N. Y.

## DAVISON'S PATENT PROCESS FOR CURING MEAT.

The undersigned is authorized by the patentees to sell patents for the using and sale of Davison's Apparatus for Curing Meats; and preserving timber; and also for the sale of rights for States. The nature of the apparatus may be learned from the article page 28 in this number of the Agriculturist. By this process, all kinds of meat can be perfectly cured in twelve hours, and in warm weather as well as cold. It leaves all the juices in the meat, and of course it makes a better article; bacon cured in it may be put to smoke in two days. It is just such an article as every planter in the South should have. Application for rights and for single machines may be made to the subscriber. The price of the machines is from $75 to $300, according to size.

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" one to five tons.......... 2⅝ do.
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" less than half a ton.......3 do.

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## NEWFOUNDLAND PUPS.

One now seven weeks old, black, except a small spot of white on the breast. Also, a litter deliverable the middle of February to the 1st of March. These pups are from imported stock, direct from Newfoundland, unequalled in the United States. The sire of them weighs 143 lbs. Those who wish to secure one should apply immediately to the EDITOR OF THIS PAPER.

## SMITH'S PATENT SEPARATING CORN SHELLER.

*For which was awarded by the American Institute, New York, a Silver Medal.*

From recent and extended operations in the trials of these machines at the South, as well as the decisions of scientific and reputable individuals from various and remote parts, the proprietors are now in possession of the most conclusive evidence that this machine not only stands unrivalled, but that its arrangement will ever remain the climax of improvement in Corn Shellers. In the further support of which, the following additional facts are respectfully submitted, viz.:—Its structure is simple and compact; of strong and durable materials; is easy of transportation; safe in its operation against accident; is adapted to all the various kinds of corn, whether damp or dry; receives the ears promiscuously from the shovel, basket, or crib; breaks neither the corn nor the cobs; is readily attached to any horse or other power (being simply driven by belt or rope); operates in the double capacity of sheller and separater, doing its work perfectly clean, and at the rate of from one hundred to one hundred and fifty bushels per hour.

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F. N. SMITH, Patentee.

Samuel Hanna, proprietor for the States of New York and New Jersey, and general agent for the Atlantic States.

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Agent of the Peruvian Guano Company.
*No. 42 South Street, New York, Dec. 27, 1845.*

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ROTTERD

# AMERICAN AGRICULTURIST.

*Agriculture is the most healthful, the most useful, and the most noble employment of man.*—WASHINGTON.

**VOL. V. NEW YORK, FEBRUARY, 1846. NO. II.**

A. B. ALLEN, Editor. SAXTON & MILES, Publishers, 205 Broadway.

## TO SUBSCRIBERS.

You will confer a particular favor upon the editor of this paper by remitting your subscriptions direct to Saxton & Miles, instead of A. B. Allen, unless you wish to address the latter on some business connected with his store, or as editor of the paper. The subscription books of the Agriculturist are kept at the office of Saxton & Miles, 205 Broadway, and this is the proper place to address all orders for the paper and bound volumes. Nevertheless, when more convenient to subscribers, names and subscriptions will be taken at 187 Water Street, although it is much to be preferred that they go to 205 Broadway.

## STALL FEEDING COWS.

WE have recently noticed articles from English agricultural publications, which would go to prove the diminished quantity and quality of milk produced from stall-fed cows. The results are so largely at variance from anything which has fallen within our own observation, that we must be allowed to withhold our faith either in their accuracy or fairness. The conclusions reached are, that cows, which had been allowed to glean their own forage from a lean pasture, when put up in a yard where they were well supplied with fresh cut grass, gave but about two-thirds their former quantity of milk, which was of a quality so much inferior, as to yield but half the former aggregate quantity of butter. Such a result we do not question, but if so, the whole premises which gave such a conclusion have not been stated.

That there is a wide difference in the comparative value of the different kinds of grasses does not admit of doubt, even among those of the same species. Some contain much more nutriment than others, which have grown under other circumstances of quality of soil, difference in moisture, &c. Nothing is better settled than that a crop of hay in some seasons is worth from 10 to 25 per cent. more for use, pound for pound, than in others; owing to excess of moisture, imperfect elaboration of the juices, and other circumstances. To such a difference between the cut herbage, and such as was cropped by the animals in the pastures, allowing it was of the same species, must be added, the probable difference of the kinds of grass. On old pastures, there are usually a large number of valuable minor grasses, which gradually intermix with the original ones sown, and which add much to their value as food for stock. In addition to this, a highly beneficial effect on the health and thrift of animals is produced, by their being enabled to procure a sufficient variety of food. This effect is more conspicuous perhaps in the sheep than in any other quadruped. For them a frequent change of pasture is essential to thrift, unless an extended range at all times enables them to glean what is best suited to their tastes and the various demands of the animal economy. Some plants are more highly charged with fatty matters; others with resinous; some saline; others with aromatic, bitter, and astringent principles. This variety, which if the animal be allowed to select from its own, and generally unerring instincts, not only yield their due proportion of nutriment, but when properly associated with others, and taken into the stomach at the proper time, their benefit is largely augmented. This is probably the true cause of the greater yield of milk of cows while pasturing than while stalled.

The true principle of soiling consists, in our opinion, in a combination of both pasture and stall or rack feeding, and where circumstances will justify it, both should be united at the same time. An abundance of succulent grasses, clover, pea-vines, corn stalks, or vegetables in the yard, with free access to pure water, with a supply of salt, lime, ashes, and sulphur, with a daily ramble in the pasture for a few hours, where easily accessible, or if not, then as often as practicable, would undoubtedly most effectually secure the greatest quantity of rich milk.

## THE PROSPECTS OF THE FARMERS OF THE UNITED STATES.

We think we can discern in the causes of the present price of products, a reasonably prosperous condition for the agriculturists of the United States for some years to come. The crops throughout a considerable portion of Europe have been seriously diminished during the past season, and to such an extent as to have created a large demand for various articles of produce from our own country. Owing to a bad season, the wheat and other grain crops, not only of England, Scotland, and Ireland, but also on the continent, have been somewhat deficient; while the potato rot has cut short this main article of food from large masses of the population. The north of Europe, from which large supplies of grain are annually drawn, has partaken to no inconsiderable extent in a deficiency of crop, while the region of the Black Sea, which annually exports largely, has at least not augmented its production. The millions are to be fed abroad, and to no other country can they look for a full supply of food but to our own. Added to the unusual deficiency of the Eastern hemisphere, a rapidly growing demand has sprung up in Europe of late years for different items of American production, such as salted beef and pork, lard, lard oil, tallow, hides, butter, cheese, wool, &c., which has relieved our home market of all the surplus produce at remunerating prices. This demand is constantly augmenting, and the active, prosperous condition of foreign manufactures has rendered their continual importation a matter of absolute certainty.

The operation of our late tariff has, on the other hand, diverted no inconsiderable portion of our former agricultural classes into manufacturers, who have thus shifted sides, and become *consumers*, instead of *producers*. So long as this policy shall be persisted in, a healthy division of the industrial classes of our country will be maintained, and the ordinary products of our farmers will continue to command fair prices; while the increasing demand for various articles for their use, hitherto but little cultivated among us, will gradually induce their production to a large extent, and at profitable prices. Among these are silk, hemp, flax, indigo, &c.

There is in addition, every probability of some relaxation in the very stringent policy of Great Britain, in regard to the admission of some of our agricultural staples, such as wheat, flour, and potatoes, and especially in the almost free admission of maize, or Indian corn. Should this anticipation be realized, we may confidently rely on a large and permanent demand for these staples at such prices as will afford a most satisfactory return to the producer. The exhaustion of the ordinary supply in Europe, from the present deficiency, cannot be wholly obviated by another season's full crop. The magazines of grain abroad, which are providentially filled through successive years of excess of production, will have been nearly or quite exhausted before the next harvest, and the minimum of price then will not have been reached, till several good crops have been secured. Add to this, population in Europe is rapidly multiplying under the favoring influences of universal peace; and it has in many sections already reached that point, when agriculture, in the present state of its science and practice, is barely sufficient to enable production to meet the demands of the citizens now extensively engaged in manufactures, commerce, and the various arts.

To the inhabitants of the west and southwestern States of the Union, an additional cause of remuneration will be found in the increasing facilities and diminished rates for conveying their products to market. New and spacious avenues are opening in various directions, by which their produce will find a direct and economical transmission to the large eastern markets. Among these are the Wabash canal, already navigable some 200 miles, but soon to be completed from the permanently navigable waters of that river to Lake Erie, some 300 miles; the Maumee canal, connecting Cincinnati and Lake Erie, which, with the former, are direct highways for western Ohio, and nearly all of Indiana, Kentucky, and Tennessee, and a part of Arkansas and Alabama; the Illinois canal, to be finished within the present year, and capable of yielding similar facilities to Illinois, Iowa, and Missouri.

Railroads, too, are starting into life in different directions in the west, and opening their iron thoroughfares for the accommodation of our western farmers, who thus have facilities for the transmission of various perishable articles to distant markets, where they can arrive uninjured, and find a profitable sale, which the hitherto tardy means of conveyance rendered impossible.

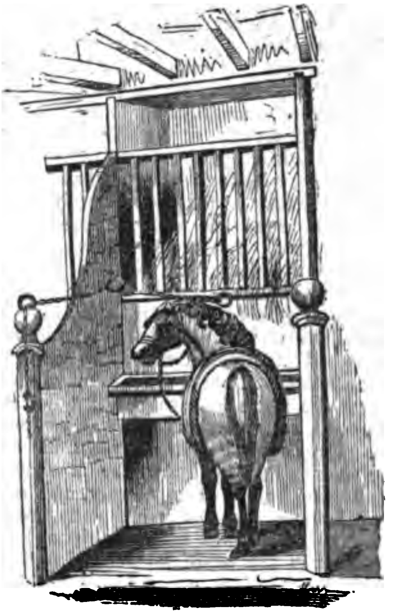
Under all the circumstances of the prospect before us, we may confidently say to our farmers, without some material and adverse policy in the administration of our own national affairs, your prospects are bright for the immediate future. Our monetary and industrial system is in a most healthy condition; reason and common sense have resumed their reign throughout the country; the legitimate avenues of agriculture, foreign and domestic commerce, manufactures, and the various arts, are all appropriately filled, and in successful prosecution. It is in the power of the agriculturists of the country to keep them where they are. The balance of power is with you. If true to your own interests, and you rigidly adhere to our present wise system, a long and bright career of prosperity is before you. Your destiny is in your own hands; and it is for you to watch carefully the administration of public affairs, and see to it that no false theoretical principles of government, no rampant or unhallowed ambition, whether national or individual, be permitted to thrust disorder into our present beneficent system, and snatch from you the legitimate fruits of your own skill and industry —lay your plans at once for an increased production in every department of your farming operations, not by attempting the cultivation of more acres than you can profitably attend to, but by enriching, and rendering more productive by careful tillage, what you now have under management. Introduce the best systems of husbandry into your practice, the best seeds and the best implements; carefully harvest and lay up beyond the risk of injury or waste, your surplus crops, and hold them for the best probable market; avoid running in debt, and pay such as you have already contracted. With the adoption of such a system rigidly adhered to, the expiration of the ensuing five years may see you the most prosperous class within the Union, if you are not decidedly so at this present moment.

## THE STABLE.—No. 7.

*Vices.*—In this No. we shall speak only of those vices which are exhibited in the stable (the vices of work and of the road will claim a separate number), which are biting and kicking. It is true these are also seen out of the stable, but the danger arising from them is usually only in the stable. Many horses will only bite and kick in the stable, although they will threaten to do so out of it.

To the groom, and the gentlemen who drive their own horses, it is important that the horse should, as to these vices, be safe in himself, or that the person controlling him should have the power to make him harmless. Much, in this respect, depends on the groom, or the gentleman himself. *His* bad habits and vices, or his *good* temper and prudence, will have much to do with those of the horse. A horse of great sagacity and high spirit, in the hands of an ill-tempered, violent, and brutal groom, might, and very likely would, become vicious in some respect. Indeed all those horses that are moderately vicious only as biters, are all, or nearly all, made so by violence and bad management. They are generally teased into the habit. It is natural that a horse should retaliate abuse, and when pinched and teased they know it, and as they do not understand a joke, make a serious return for the fun of the groom. Such horses, however, never do harm but to repay abuse. Hence whipping does no good, and only makes them more violent and disposed to evil. Indeed it may be questioned if, for the vices of biting and kicking, a horse ever is improved by punishment. For *casual* misconduct only, will correction answer a good purpose. Habitual vices can only be overcome by kindness, and if this will not reach them, caution and the avoidance of danger are the only means of obviating the difficulty. With vices of temper, punishment only makes bad worse, and the horse will in the end be apt to become ferocious. Horses will often put on the show of vice, will threaten to bite and to kick, will lear, and raise the hind foot, and pretend to strike with the fore, and champ their teeth, and yet it is all play. Mares are quite apt to do this in gentlemen's or coaching stables. If *teased* they *may* bite, but will only threaten if not teased, and indeed seem to threaten sometimes to avoid being teased, and at others to command attention and secure petting. Such horses should never be minded. Let them alone and they will do no harm. It is an evidence of spirit, and they have generally much energy and bottom.

Horses are not unfrequently kickers and biters only with other horses, and for this mares are more remarkable than horses. A vice of this kind can never be cured. Punish for it, and the punishment is forgotten in an hour, and the vice again indulged. With some horses it becomes a mania. They will slip their halters when the stable is locked up, and go round to the other horses, and bite and kick them unmercifully. Again, they will kick or bite strange or unfavorite horses, and not known ones. For all this there is no remedy but separation. The horse that slips or breaks his halter to indulge his passion must be kept alone, or put into a close box stall; and those who dislike strangers must be worked and lie only with constant companions. Some horses will only kick and bite when brought to the shop to be shod, and then are furious. They fear a crowd, and have doubtless learned this from the performance of some operation, as breaking, castration, or docking and pricking, which has required several persons to do it. They recollect the pain inflicted formerly by a crowd, and fear it again. It will be found that they cannot be shod in the smithy; yet the smith may go alone to the stable and shoe them in quietness without danger.



Stall for a Biter.—Fig. 8.

Our cut this month illustrates a method of managing a horse that is a vicious biter. For many reasons it is often desirable to keep a biter. Generally they are the best of horses, and have no other vice. Not uncommonly, under the management of a single groom, they are kind and affectionate, but to strangers are savage and dangerous. Of course, they are never to be trusted. If they cannot be rendered harmless, they are worse then useless; indeed vice is the *worst* kind of worthlessness, for worthlessness has its degrees, as it may be harmless or dangerous. Our cut shows a method of making a biter harmless in the stable. A cord is fastened to the halter head, and passes through the ring, or staple, or hole into which the halter stale, or strap, is fastened, and passes from thence to another at the end of the stall division post in the rear of the horse. Here it is fastened, that it may not be drawn through. When the groom is to enter the stall, he pulls the cord, and draws the horse's head up to the ring to which the halter is fastened, and then the cord is tied. His head no longer at liberty, the horse is no longer dangerous. This method is cheap, simple, and easily adopted. A hole in the stall partition, when of boards, and one in the post of the partition, which anybody may bore with an auger, will answer the purpose to pass the cord through. This method is convenient and cheap. When the horse is taken out without the halter there is no trouble in it, for it costs as much trouble to take off the halter without the safety-cord as with it. If the halter be left on the horse, it is as easy to untie the cord from the halter as to untie the halter; and it may be made for a few pennies (or shillings if made with rings) at most.

Among biters, those which threaten are in general but little dangerous, and are much less so than those which give no warning. The vice seems to have all degrees; and the worst is that which shows itself in the horse who gives no indication of his vice. If such a biter be *timid* he will wait until the groom is within reach, dart at him, bite him severely, and then fly to the other side of the stall, and crouch or tremble in every fibre. Having learned that punishment follows the biting, he seems only to fear it when he has incurred the penalty. He may be whipped severely, and in an hour he will repeat the biting. Here punishment will do no good. Let the groom when he enters the stall assume a resolute air, and threaten, and the timid biter is overawed, and so long as the groom keeps up his hostile air he is safe. This is the better course, and punishment should not be resorted to. To threaten it will deter, but to inflict it after the biting will not prevent a recurrence.

Where the horse is savage and bold, and will, if punished, resist, he is the most dangerous of all biters. He of course does not warn, but will dash at one even when he knows he is watched, and not only bite, but do it repeatedly, and retain the grip of his jaws, and not unfrequently use his feet, and trample the object of his violence under his feet. This is the mode in which ferocious stallions kill their grooms, and it has occasionally occurred with geldings.

Nothing will cure the determined biter. Caution alone will render him safe. He should be managed by one person. When the groom goes up to him it should be in a decided manner, boldly, and as if he was to command or overpower the horse. He should speak sternly to him, and keep his eye on him. If a bold horse, a whip should be used, and a blow threatened, unless with those in whom it would provoke retaliation. If it be necessary to do anything about the horse, it will be necessary to tie his head, or muzzle him. When the groom leaves the stall, he should back the horse to the length of the halter, and then step back out of the stall, which he may do safely.

All this will answer with horses that fear punishment; but with horses that are bold, and will fight if corrected, nothing but a head-cord to first fasten their heads will make them safe; and the cord must be relied on wholly. A muzzle will hinder the horse from biting, but it will not prevent him from striking; and tying by the head alone will answer.

With all horses that bite, caution and kindness are the only means of safety. Kindness may reclaim the playful or moderate biter; caution alone will make harmless the confirmed, savage, and ferocious one.

## BACHELDER'S CORN-PLANTER.

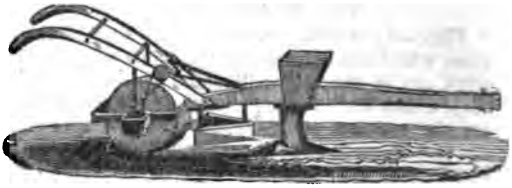


Fig. 9.

This is the best machine we have yet seen for planting corn. The seed is put into the hopper above the beam, and as the planter moves along, the share below opens the furrow; the corn is then dropped by arms moved by a crank. These arms have holes in the end of them, and as they play back and forth from under the hopper, receive from three to five grains in each hole, and drop the corn through a perpendicular tube attached to the share, into the drill made by it. A triangular iron follows and covers the corn, and the roller passes over and presses it down. The arms are made to drop the corn nearer or farther apart by different sized wheels fastened on the crank, moving the arms quicker or slower as required. Those usually made here drop from two feet to four feet apart, as wished. The machine requires a small horse or mule to draw it, and with a boy to tend it and drive, will plant two to four acres per day, according to the width of the rows apart. The price is $16. It is kept at our warehouse.

## PATENT SPRING TONGUE BUCKLE.

We have been shown one of these, and we ask attention to it for the purpose of both approval and condemnation. In principle it is a modification only of the common buckle; in the common one the draught is on the *tongue*, and the *cross-bar* of the buckle on which the tongue rests at its moving end; the trace is curved at the point where the tongue enters it, and the draught is oblique both on the tongue and the cross-bar; this arrangement spreads the draught over the whole of the trace, and the tongue and cross-bar both are employed in the draught. The buckle will sustain greater draught on account of the obliquity of the draught. The spring buckle places the tongue at right angles to the trace, and there is no pressure on the cross-bar from the trace *itself*, and only from the tongue. In all this it is *inferior* to the old buckle, and in use will destroy traces faster far than the common one. Then for traces or great draught it is worthless. The tongue is moved by a spring, and enters the strap right angles. Here is its merit. In harness where straps sustain no draught, or a very slight one, this buckle is to be commended; to move the strap it is only necessary to move the tongue, and the strap is free. In the common buckle it is often difficult to move the strap to free the tongue, and in that respect the spring buckle is a decided improvement; and this applies more strikingly to traces than any other part of the harness; but even in this respect the spring buckle is not equal to Lawrence's lever buckle, for the trace may be more readily moved in it than in the former. We fear that the spring tongue buckle cannot be made small enough (on account of its complexity) to be used on harnesses at other points than the traces. If so, it is valueless for all purposes about harnesses. If it can be made small enough to answer for the purpose of fastening straps where there is no draught, or but a slight one, and a small buckle is required, it is a valuable improvement. The same objection which applies to the common buckle does to this, viz.: when the trace or strap is moved, it must be moved from *hole* to *hole*, and these cannot be near each other, for then the trace or strap would be too much weakened. Here Lawrence's buckle is eminently superior, as no holes are necessary, and the trace or strap is held by pressure, produced by the leverage of its curvature, and can be moved as much or little as may be wished.

Where there is *no* draught the spring buckle is superior to the common buckle; where there *is* draught no buckle equals Lawrence's tongueless one.

## GROWTH OF HAY.

Our correspondent A. R. D. (see last No., page 30), stated the fact, in his article, of a meadow in New Jersey, which was so much affected by drought, that it gave no grass at the usual time of mowing; but by keeping out the cattle, the grass took a start after the late rains commenced, and yielded two tons of hay per acre, which was cut and secured in November.

The fact noticed is the same as is annually repeated among the best farmers in Kentucky and Tennessee, and has been incorporated as a regular practice or system with them. The first crop of the fine blue-grass pastures, the glory of Kentucky, matures, and is fed off by cattle in the early part of the season, after which the pastures are carefully closed against all intruders. The late summer and early fall rains again start the grass and give it a luxuriant growth. This second growth, owing to the difference of climate, is allowed to remain on the ground for winter fodder, and is then fed off by the cattle, while, at the north, it would have been necessary to cut and house it. Irrigation, or copious rains, with abundant manure, and a prolonged autumn, would at all times secure this result in New Jersey. Owing to the excessive drought of the early part of the season, the grass did not grow; the soil was not exhausted by its accustomed crop, and its hoarded strength was fully equivalent to a large coating of manure. The soil was thoroughly and deeply warmed by the long continued dry and hot weather, and the frequent and abundant warm showers that continued from the latter part of August till November, should have produced, as they everywhere did, abundant crops of grass, though the instance mentioned is the only one we have noticed as being reserved for hay. We do not conceive there will be any effect on the next year's crop, whether the present one were cut earlier or later; the aggregate taken off in the course of the season, alone affecting the quality of soil and its capability for subsequent production. We should prefer that some of the dead grass were left as a slight protection to the roots against frost; but the latter seldom does serious injury to the roots of any of the grasses, unless accompanied by standing water, when it is said to winter kill.

The remaining part of the article our correspondent has pretty much answered himself. We doubt the full dimensions of improvements communicated to the late Commissioner of Patents, and would much sooner credit a series of well authenticated facts in support of it, than an isolated instance, or any conjectures as to its possibility. That carbonaceous matter is added to a soil, which is kept in grass, does not admit of doubt. The leaves absorb carbonic acid from the atmosphere in large quantities, and carry no inconsiderable portion of it into the roots, where it accumulates in the soil, and nitrogen may possibly be added in sufficient quantity to maintain or even increase the standard fertility, by absorbing ammonia or nitric acid from the air and rains. But if the crop of grass be annually carried off, it is as certain as light, that there is a diminution of the salts; and the mineral or inorganic portions of the soil are gradually becoming exhausted, and if not replaced, they will sooner or later be so used up as to admit of no profitable returns.

The reason of improvement going forward more rapidly when the seed is first allowed to mature, is simply, that in harvesting, much of it is scattered on the ground, where it replaces the old stock, and fills up every vacant space, by which more agents are at work in drawing carbonic acid from the air, and storing it up in the roots, where it constitutes a permanent addition to the fertility of the soil.

**Benefit of Agricultural Publications.**—We have paid out to farmers, principally of this State, over six thousand dollars in money the past year, for improved stock and seeds, most of which has gone South. Now, if it were not for our periodical, through the pages of which a knowledge of these things is made known, we could not thus benefit the farmer. Our business in these matters has merely commenced. What advantages, then, may not the farmer expect to derive from a continuance of it? We probably do not make one-tenth part of the purchases which our paper influences—perhaps not even one-twentieth; and this amount is only one small item of the benefits conferred upon farmers by agricultural publications. Think of the improved implements which they help to form; of the improved system of cultivation; of the introduction of new plants, seeds, and fruits: new fertilizers, and a superior method of applying them; and above all, the great amount of instruction to be found in their pages, and the constant endeavor to enlighten the minds and elevate the condition of the producing class—the pride, the glory, and the bulwark of the country. It is a standing wonder that every farm-house has not its agricultural periodical.

## Mr. Norton's Letters.—No. 16.

Before this time, in the New England and the Northern States generally, the ground is probably frozen, and perhaps covered with snow. Here, I have as yet seen no ice more than an eighth of an inch in thickness. For the last four or five days there has been no frost at all. It must not be supposed that this is an enviable state of things; for, in place of our cold, clear, bracing atmosphere, we here have day after day of rain; not a right down pour, but constant, gloomy, ceaseless dripping. The roads are hard, it is true, but are covered with a layer of mud, having the consistency of a very thick soup. One soon learns here to despise an umbrella entirely, or to make it an inseparable companion.

In the ability to plow during the whole winter, excepting perhaps a week or ten days in each season, the Scotch farmers have a great advantage over us. They are not forced to hurry through all the operations of seed time in a few weeks. This disadvantage under which we labor, is in some degree balanced by the fact, that our climate is much less changeable, so that when we do begin, we are able to go on almost without interruption.

The mild winters of this country also permit the farmer to feed his turnips off by sheep in the field. He thus saves all the expense of lifting and storing, while the land receives a good coating of manure at the same time. Some light soils are also greatly benefited by the consolidation which is produced by the constant passing to and fro of the sheep over the small areas in which they are successively confined. As we cannot feed off turnips in the field, we cannot grow them in such very large quantities as are grown in this country. It would be an immense undertaking to store the produce of 180 or 200 acres at from 20 to 30 tons of turnips per acre. At the same time, the fact is unquestionable, that we may most profitably grow roots to a far greater extent than at present.

Though Scottish agriculture, in its best features, decidedly deserves all the praise which has been lavished upon it, I am inclined, on looking at the *whole country*, to take courage respecting ourselves. The highly cultivated parts of Scotland, compared with the whole extent of arable land, are found to bear a very small proportion to the indifferently cultivated tracts. When the high roads are left the farming grows bad in almost every case. Travelling during the present year, by railway between Edinburgh and Glasgow, by coach between Edinburgh and Dumfries, also between Edinburgh and Carlisle and Newcastle, I have passed over great tracts of country, as badly cultivated, judging from appearance, as almost any district in our Northern States. When I see these things even in *Scotland*, I take courage, and hope that we may rival the Scottish farmers sooner than they expect. I do hope and believe, that our farmers, the owners and occupiers of their own land, will more readily try new methods, will read more, and not being wedded by the practice of so many ages to bad habits of cultivation, will give up such habits a little more readily.

I have, in several instances, taken opportunities in responding to toasts at public dinners, to tell the Scotch farmers to bestir themselves; that the people of the United States, were accustomed to carry through without hesitation everything which we seriously believed was for our profit; and that unless they made use of Prof. Johnston and every means in their power for improvement, we should soon be upon their heels; nay, that it might in process of time come to pass, that they would be sending their young men to us to *learn farming*. Of course, I do not expect this last thing to happen *soon;* but there is no setting any limits to what we may do if we go resolutely to work.

Our Canadian neighbors are waking up. A young gentleman named Gilmour, who has a farm near Toronto, has just arrived here with the purpose of spending a year in Prof. Johnston's laboratory. I have commenced with him some investigations upon Indian corn, but shall be obliged soon to leave it in his hands, under Prof. Johnston's direction. We see, therefore, that we are to have rivals on our side of the Atlantic; such a strife will be for the good of both parties; we need fear no defeat if we fully improve our advantages.

*Edinburgh, Dec.* 1, 1845. John P Norton

## MERINO SHEEP.

I observed in a recent number of the Agriculturist, a statement in relation to the extraordinary merits of the Rambouillet Merinos. No definite statements are made in relation to the weight or quality of their fleeces, as proved by the scales or the wool measure. I have seen no notice in your paper (except the publication of their pedigrees), of a flock of sheep owned in this county, the qualities of which have been rigorously submitted to both of the above tests, the results of which I think well worthy of public attention. I allude to the flock of Mr. Henry S. Randall, of Cortlandville.

First, as to the *weight of fleece*. Mr. R.'s full bloods averaged over 6 lbs. of well washed wool, including young sheep. Some of the ewes went as high as from 8 to 9 lbs., and one the extraordinary weight of 9 lbs. 2 oz. A three year old ram sheared 13 lbs. 8 oz.; a yearling (the one which received the first premium at the State show at Pokeepsie), 8 lbs. 8 oz. These were all single year's fleeces. The fleeces were weighed in fine balance scales; were sheared, and put in the scales in the presence of two disinterested men of high respectability, and each made separate memoranda of each fleece. I do not know that I violate any confidence in stating that both of these gentlemen have made affidavits to the above facts. Mr. R. has objected in my hearing to the publication of the above fact, and stated that the affidavits were only made in consequence of his expectation of being called upon to show his sheep, when such tests would be required. But I view the question in a different light. I believe statements of this kind have been in some instances submitted to the public, when if the solemnity of an oath had been required, and from disinterested persons, more care, to say the least of it, would have been taken in ascertaining the facts. The State Society, in giving premiums on products, requires their amount per acre to be verified by an oath. No man should be too proud to thus substantiate his statements. As long as there are knaves in the world, let the honest man increase the means of their detection, by voluntarily taking a course, which the former might think it unsafe to follow.

Secondly, as to the *quality of the wool*. It is no great gain to get heavy fleeces, if the quality is entirely, or to a great extent, sacrificed. Dr. Emmons, our State Geologist, visited Mr. R. last summer, and selected various samples from his wool. These were carefully measured and their strength tested in comparison with wool from other celebrated flocks, by accurate instruments. The result, with drawings of the wool, was given in the July, August, and September numbers of the American Quarterly Journal of Agriculture for 1845. The wool of Mr. R.'s prize ram above alluded to, decidedly exceeded that of Grandee, the best ram of the Rambouillet importation, and supported a greater weight, or, in other words, was stronger in proportion to its diameter. It as far exceeded various rams of early importation. Mr. R. has many ewes of equal quality. Like the Rambouillets, these sheep are of large and fine carcase: but unlike them, are short in the leg, and the ends of the wool are usually coated with a dark gum. It is barely *tipped* with the gum, say for one-eighth of an inch. Within that, and to the skin, the wool is a glossy white, and freer from hard gum, I think, than the Rambouillet. This outer crust is a great protection from rain and cold, and does no hurt, as it readily scours off in the process of manufacturing.

I have made these remarks in justice to a flock of which, as a citizen of Cortland county, I feel proud, not having seen any particular description of them hitherto in the Agriculturist. L.

*Cortlandville, Jan.* 5, 1846.

## UNDER DRAINING.

The advancement of agriculture within the few last years in this country, the high price of farming lands, and the value of products, and cheapness of labor within convenient distances of our larger markets, all justify the commencement of an intelligent system of draining, on such lands as require it. This system has for many years been introduced and largely practised in England and in Scotland, and it has resulted in the most signal success. The plan first adopted, was, to excavate the land in parallel lines, at intervals of 16 to 25 feet, to the depth of 2 to 2½ feet, forming a slightly inclined plane on the bottom, which was from 3 to 6 inches wide, and gradually enlarging as it approached the surface. The narrowest drains were arched with inverted turf and clay, at a height sufficient to allow of the requisite space at the bottom for the escape of whatever water might filter through the soil. Others were formed with continuous arched tiles laid on the bottom, forming an uninterrupted conductor. Larger ditches were filled with rubble stone, and in some instances brush, to a sufficient depth, and then covered with soil. In all cases the smaller ones communicated by their outlets with a large open drain, which carried the water beyond reach. These drains, with their required coverings, are always below the reach of the plow, thus leaving the whole surface of the land open and unobstructed to cultivation.

Two recent improvements have been introduced which materially diminish the expense, while they enhance the benefits of the system. They consist in sinking the drain to 4 feet; and using baked clay or tile pipes 4 to 6 inches in diameter, and 12 to 18 inches in length, connected by allowing the descending end to enter the next below it as a socket. The trifling opening thus afforded at each joint, with small holes perforating the top of the tiles, is found to be sufficient to admit all the water which falls into the drain; while the increased depth at which the drainage takes place, draws the water from a much greater distance. With the depth indicated, it has been found that the drains, instead of being required once in 16 to 25 feet, may be placed at intervals of 40 to 50, and accomplish the object with equal success, *and in less time*. The expense of the former plan was from $20 to $30 per acre, while the last is only from $12 to $18.

The advantages of under draining are numerous and important. I will briefly state some of them. They take away all the surplus water which exists in heavy or tenacious soils, which, in wet seasons, are a serious impediment to the successful growth and perfection of vegetation; thus always ensuring a full crop, when frequently not one-fourth of a crop is matured on similar undrained soils. They allow of early cultivation in spring, and late in autumn, by furnishing a dry, warm soil, which before would not admit of cultivation except in the warm part of the season; thus enabling the farmer to grow a greater variety of products where only a few were adapted to the soil before, and to these it gave several weeks' additional growth. It saves all the trouble and waste of surface drains, and open furrows, which require that much of the land be left almost in an unproductive state, to serve as conductors of the surplus surface water. The rains falling on the convex surfaces of the lands, run off rapidly into the furrows, and not only prevent the benefit to the soil which would result from its absorption, but they carry with them much of the fine soil, which is thus allowed to waste.

This last is an item of incalculable importance to the farmer. Rains are charged with some of the most important elements of nutrition to plants, and especially contain considerable proportions of carbonic acid and ammonia. If these be permitted to percolate through the soil, the roots of the plants, or, in their absence, the elements of the soil itself, absorb and form permanent combinations with them, by which they are held till the demands of vegetation unlock them for their own use. Air is also highly charged with the elements of nutrition, and it is necessary that this should penetrate through every portion of the soil where the fibres of the roots exist. Soils which are saturated with water, do not admit of any air, unless the small proportion combined with the water; and from all such, this vital adjunct of vegetation is excluded. By draining off all the surplus moisture for a distance of 3 feet below the surface, innumerable minute fissures are everywhere opened, through which the water passes, and these are immediately filled by atmospheric air, which thus traverses the soil in every direction, imparting to the rootlets of the plants their contained aliment, or storing up their useful properties with the soil for future use, and facilitating those necessary changes, modifications, and recombinations in the elements of it soil, which are essential to vegetable production. The porosity of the land thus secured, facilitates the admission and escape of heat, which last condition is of the utmost consequence in promoting the deposition of dews.

The dense mass of saturated soil is impervious to air, and remains cold and clammy. By draining it below the soil, the warm rains penetrate the entire mass, and there diffuse their genial temperature to the roots. Immediately pressing after these, the warm air rushes in, and supplies its portion of augmented heat to the land. Porous soils thus readily imbibe heat, and they as readily part with it; every portion of their open surfaces radiating it, when the air in contact with them is below their own temperature. This condition is precisely what is adapted to secure the deposit of the dews, so refreshing, and during a season of drought, so absolutely vital to the progress of vegetation. Dew can only be found on surfaces which are below the temperature of the surrounding air, and rapid radiation of the heat imbibed during the warmth of a summer's day, is necessary to secure it in sufficient profusion for the demands of luxuriant vegetation, in the absence of frequent showers.

An insensible deposit of moisture, precisely analogous to dew, is constantly going forward in deep, rich, porous soils. Wherever the air penetrates them at a higher temperature than the soils themselves possess, it not only imparts to them a portion of its excess of heat, but with it also, so much of its combined moisture as its thus lessened capacity for retaining latent heat compels it to part with. To the reflecting mind, imbued with even the first principles of science, these considerations will be justly deemed as of the highest consequence to the rapid and luxuriant growth, and full development of vegetable life.

Another essential benefit, derivable from undrained lands, consists in the advantageous use which can be made of the subsoil plow. If there be no escape for the moisture, which may have settled below the surface, the subsoil plow has been found to be injurious rather than beneficial. By loosening the earth it admits a larger deposit of water, which requires a longer time for evaporation and insensible drainage to discharge. When the water escapes freely, however, the use of the subsoil plow is attended with the most beneficial results. The broken earth, thus pulverized to a much greater depth, and incorporated with the descending particles of vegetable sustenance, affords an enlarged range for the roots of plants, and in proportion to its extent, furnishes them with additional means of growth. The farmer thus has a means of augmenting his soil and its capacity for production, wholly independent of increasing his superficial acres; for with most crops it matters not in the quantity of their production, whether he owns and cultivates 100 acres of soil, one foot deep, or 200 acres of soil, half a foot in depth. With the latter, however, he has to provide twice the capital in the first purchase, is at twice the cost in fencing, planting, and tillage, and pays twice the taxes as with the former. In a season of drought, the undrained and subsoiled fields have the further advantage of security and steady development, from the roots penetrating far below the scorching effects of the sun, and having the benefit of the ascending moisture from below, from their remotest depth to the surface, which frequently secures to them a large yield, while all around is parched and withered.

A more enlarged and general, or what may justly be termed, a patriotic or philanthropic view of this system, will readily detect considerations of great moment, in the general healthfulness of climate which would result from the drainage of large masses of land, which are now saturated, or in many instances covered with stagnant waters, and which are suffered to pollute the atmosphere by their pestilent exhalations.

It is to be hoped that some of our enterprising and wealthy agriculturists will embark in this system, with what light is now shed upon it by European experience, and give to the American public the full benefit of their experiments. And should these be successful, American ingenuity should be stimulated to the perfecting of such machinery as would materially reduce the cost of excavating, and the manufacture of pipes in the most approved, economical and durable manner. For this object, or even for the purpose of introducing the system, I would suggest that our State Agricultural Society, the American Institute, or other patriotic associations, at once offer suitable rewards for the best machines for making ditches, and for the most successful examples of underdraining.

R. L. ALLEN.

*Buffalo, Oct.* 30, 1845.

P. S. I understand several of our enterprising citizens have made a beginning in underdraining, and I trust for the good of their brethren in the same honorable craft, they will give to the public the results of their experiments.

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THE principal part of the following articles on fencing appeared originally in the South Carolinian, and are now copied out with emendations by the distinguished writer for our periodical. Greatly lessening the number of fences, and obliging people to keep up their domestic animals, or if they range abroad furnish shepherds to take good care of them, and see that they injure no man, is a reform which we have dearly at heart. We bespeak for these articles the earnest attention of our readers. We consider them among the most valuable and important that have yet appeared in the Agriculturist.

## FENCING—No. 1.

THE period has not yet arrived when the absolute want of timber forces a general resort to some substitute for fencing. In some parts of the State, however, the timber is gone, and plank is purchased and used. In other parts it is becoming scarce, and great economy is required, while everybody knows that the time will come when rail fences will be no more. The common feeling, however, is to let the future take care of itself. Sheer necessity alone can introduce improvement in anything connected with our Agriculture. The planter belongs to the genus *Terrapin*, and can seldom be made to move until the fire is felt on his back. I never, therefore, undertake to recommend anything to planters for their benefit *in fu-*

*turo,* unless it has also the strongest claim to attention *in præsenti.*

I imagine that few persons have ever undertaken to count up the cost of the fencing in this State to compare it with the benefit derived. There are probably 250,000 white persons in South Carolina engaged in agriculture, making, at the usual average of five to each, 50,000 families, owning each one or more plantations or farms. I should think there were nearer 100,000 than 50,000 settlements in the State. The length of fencing on these places varies. Few or none, however, have less than half a mile, while I know some whose fences are in all over thirty miles in length. The average length cannot be less than two miles to each family, or 100,000 miles in the whole State. This is a moderate estimate I believe. Now it requires between eight and nine thousand rails to make a good fence of one mile. These rails are worth on an average one dollar a hundred, put up. But allowing for fences not good, and rails put up at a cheaper rate, we may safely estimate the value of every mile of fence at $50. At this rate the whole fencing in South Carolina is worth $5,000,000. If any one should think this a high estimate, let him reflect on all the items, and also remember that I have not taken into consideration the plank fences. There are many thousands of miles of such fencing in the State, out of the towns, and it costs at the very least $200 per mile—often twice as much.

Now the interest on this investment of $5,000,000 in fences I regard as equal to $1,000,000, or 20 per cent. per annum. The legal rate of interest is seven per cent. But there is a sinking of capital in fences equal to at least 13 per cent. per annum. At the end of five years rail fences generally require three or four new rails, and the same every other year thereafter for ever. Thus the duration of a fence does not average more than seven years, or at most seven and a half, and the annual decay is fully 13 per cent.

Now for what purpose do we make this dead investment of $5,000,000, and incur this annual loss of $1,000,000? For none other than to keep cattle, hogs, and sheep out of our fields. Mules and horses we usually keep out by enclosing them. The question then is, whether it would not be cheaper, and in every way better, to enclose the cattle, hogs, and sheep also? It may be the animals we guard against are worth more than our fences; but I am inclined to doubt it. I keep a large stock, and raise an abundance of pork and beef for my wants; and though I have scarcely a cross fence on my land, my fences cost me more than I could sell my stock for. Let every planter make the calculation for himself. Be that as it may, it is far more doubtful whether the interest yielded by the stock is equal to that lost on the fencing.

Let every one calculate here again,—for the result might not satisfy all of the advantage of keeping stock enclosed, in preference to enclosing our fields,—if the mere expense of making and repairing fences would of itself raise and fatten our meat. But what is the actual benefit that we derive, after all, from fencing? The benefit of the range for our stock. And what do we gain by that? Razor-back hogs, and sway-back cattle, and sheep that dogs will hardly eat after killing. I was going to say that the sole advantage of our ranges was, that it kept our stock alive and breathing for two-thirds of the year; but it does not do that. Of 100 hogs turned into the range without feed, how many would come into the pen for pork? I am always rejoiced to get back three-fourths, after all the feeding and attention I can bestow. I do not think it would be hard to show that this range, which is all we get for our annual outlay of $1,000,000, is in most parts of the State rather a disadvantage than an advantage. I have always thought I had as good a range as any in the State for my stock, in every point of view; yet after much reflection, calculation, and sufficient *experiment,* I have gradually brought a large portion of the stock into lots and pens, and shall soon have all enclosed. I do not believe there is an individual in South Carolina who would not profit by the system, if he had, nevertheless, as I have, to keep up all his fences against his neighbors. His profits would of course be vastly increased if he could dispense with his fencing. Has any one ever actually counted the cost of fattening a hog taken from the range? I have done it, and have known others do it. It very rarely happens that the corn he eats would not buy more pork than he will turn out. Let our hog breeders try this generally next year. But we usually give them the run of the pea-field, which saves corn in fattening, it will be said. Let it be considered whether more time is not required to repair fences annually than would be taken up in gathering the peas the hog will eat, or in making so much more corn. Besides, many hogs die of eating peas; and when fat and wild in the pea-field, so that they cannot be regularly called up to be counted, how many are always lost by theft? As to cattle, I admit that if we enclose them we must diminish the number some keep, especially in the low country. But of what use to us are our herds of lean kine, that give little milk, butter, or beef? One well-bred and well-fed cow or steer is worth as much as ten of them: so of sheep. When, however, large gangs of either are kept, they must have shepherds, and these can keep them from the fields even were there no fences.

But I have made this article long enough, and will break off here.

I have more to say, and will, with your permission, continue the subject in another number.

*South Carolina, Jan'y,* 1846. COKE.

CURING MEAT.—Mr. Canfield wishes us to add to his article on this subject, page 20 of our last No., that the sulphate of potash is a salt which does not readily dissolve in cold water, and therefore, when pure sulphate of potash is used for curing meat, it should be pounded and *dissolved* in water before it is put into brine along with common salt.

SALTING SHAD.—The season for this delicious fish is fast approaching at the south, and will soon open at the north. As soon as they are caught they should be dressed, and rinsed clean in pure water, and then salted. To let them lie for hours or perhaps days before salting them, injures the flavor of the meat very much, and at times renders it unhealthy.

## THE HEREFORDS.—No. 2.

This number will be devoted to the reasons why the Hereford herd of Messrs. Corning and Sotham is a superior one All men talk in *generals* about cattle, and very few admirers and breeders do otherwise. My first number, so far as related to the herd, was of that character—and so of necessity. It was meant merely to assume a position. That being taken, I will now commence, where we all in talking of cattle ordinarily stop, viz. the assertion of a broad opinion of approval or condemnation, and give the reasons for the conclusions of my judgment. To do this properly some general principles must be stated.

I. Cattle should be uniform in family character, presenting as a herd and as individuals the general excellences, which distinguish their particular breed. Different ones will be above the average standard, others below it, but all should have so marked an adherence to the general character as to be at once recognized. This is to apply of course only to *good* cattle. It *will* apply to any herd of the common cattle of the country. If they be selected in any numbers, they will present great uniformity, but in the main it is a uniformity of defect; they will vary more in their milking quality (boasted as it is by the advocates of the race) than in anything else. It is easy to have uniformity of defect, hard to have it of excellence. Such is this general principle. Who can point to three herds in our country of improved cattle, possessing uniformity in excellent character? By this I mean the received excellent character of the breed. I know but two. The one is the Devon herd of Mr. Patterson, of Maryland, the other the herd of Messrs. Corning and Sotham. I have seen most of the Short-Horn herds in the United States, and am familiar with those imported and bred for the last fifteen years. I challenge any one to point out a herd of Short-Horns in America of any considerable numbers that present uniformity. I do not mean of *color*. That is nothing if it be within the true range, viz. red and white, and their mixtures. I never heard of but one herd of Short-Horns entirely uniform, and that was Mr. Bates's, of Kirkleavington. Up to 1830 they were even in color, all red, or red with a small amount of white. In that year he introduced the bull Belvedere, a roan, presenting otherwise, however, the same excellent character as the herd. Since that year the roan has mingled in about equal numbers with the red and white. His cattle are all uniform in general size and make. Any one cow and bull of his will not breed a large open boned, loose, flat-ribbed, light chested calf, and one the opposite of all this. The herd of the late Earl Spencer (better known as Lord Althorp), had uniformity but in *one thing*, viz. general *masculine* character; this made all his bulls coarse in the head, and his cows rarely or never fine, and rather too masculine. He found it very difficult to preserve high stamina, and perhaps could not with fineness, and so sacrificed fineness for a hardy constitution. This gave an uniformity in one respect to his herd, but not a pleasing one. There was variation in other respects, and he had very good and very bad animals, with perhaps a slight prevalence of defect. The famous herd of Charles Colling, through all its periods, presented great dissimilarity among its different beasts. During the latter years of the life of the celebrated bull Favorite (252), he used both Favorite and Comet (155). These two bulls derived from the same stock and deeply bred in and in, and almost identical in pedigree, were as unlike as could be two bulls of the same breed. Favorite was a fine, large, open-ribbed animal, with great style and stamina. His excellences consisted in fine handling, and great aptitude to feed. His value lay, however, in the superior character of his get. They were almost all superior to himself in every respect. The basis of the family to which Favorite and Comet belonged, in Colling's hands, was Lady Maynard. She was a fine cow, with great constitution. She was bred to Foljambe, and Phœnix was the produce. Foljambe was coarse, deriving the coarseness from his sire, and so was Phœnix, both having great stamina. Favorite was out of Phœnix, and took her coarseness. In him there existed a family tendency to fineness and coarseness. Some of his calves possessed the fineness, some the coarseness; but as a general thing, his get united both fineness and stamina. Thus he made his get superior to himself in high show of style and fineness, yet imparting his great vigor. Comet was fine and vigorous; got by Favorite he went back to Lady Maynard for character and took the stronger tinge from her. Yet he had not the full vigor which belonged to the Foljambe strain. In Mr. Colling's herd there were all shades of color within the true range, red, yellow-red, roan, red-roan, yellow-roan, white, red-white, roan-red-white, and flecked. Even after his herd was *established*, it possessed varying animals; some so bad as to be worthless, some of the rarest excellence. The good ones were descended directly from superior females, originally purchased by him. These were Lady Maynard, the Duchess from Stanwix, the original Daisy, and Old Haughton. All his excellence came from these four cows. He had recourse to the Princess and Red Rose families of R. Colling. Yet from the introduction of bad crosses on these four families, he had great variation. From his great compactness, fineness, and constitution, Hubback got uniformly good stock on these families. But Hubback's stock, as well as himself, were disposed to sterility; Bolingbroke also was uncertain; from this Favorite was free. Hence Favorite was used as long as he could be, and upon his own daughters for three or four, and in one instance, even six generations (he lived to be sixteen years old). Mr. Colling's long breeding, in so indiscriminate a manner, gave him all hues of color (within the true colors), and excellence as varying as the color. The families that were distinguished by great uniformity of color (whatever might be the color), were marked by uniformity in other respects. His best families were all red and white originally (which was the entire original color of the Short-Horns), and where in their descendants the red prevailed, there was greater excellence in the animal and great uniformity in that excellence. This chance of a union of great seminal vigor and great constitution with general coarseness in Favorite, gave a general tone to all the animals of the herds of both Charles and Robert Colling (the latter doubtless the better breeder of the two), and made them vary greatly in their character. Uniformity was wanting; the animals possessed every grade of excellence and defect; some matchless; some worthless. So bred, the herds of those gentlemen, when sold and dispersed, failed to realize any good in the hands of others save in one instance. The *best* herd in England at the time of the sale of Charles Colling, in 1810, and for many years before, was that of Sir Henry Vane Tempest. But unfortunately, by his death in 1813, his herd was dispersed and lost; and Robert Colling's followed in 1818. In 1810 Mr. Bates bought, at C. Colling's sale, Duchess I.; and prior to this he had bought Duchess by Daisy Bull (186), which cow he had bred to Favorite (252), and in 1810 possessed Ketton I. Duchess I. was bred to Ketton I., II. and III., all bulls of the same strain. Mr. Bates was determined to have uniformity in everything, color, excellence, and constitution. For twenty years, except once, he did not go out of the Duchess tribe for a bull, always using bulls got by a bull out of a cow of that tribe, except in the instance of Marske (a bull of the Princess tribe), and Second Hubback, a bull got by a bull of the Duchess tribe, out of a cow of Mr. R. Colling's very fine Red Rose family. He only went once entirely from that family and then into one equally good, the Princess family, in the case of Marske. In twenty years, he bred but one roan animal in his Duchess tribe, and he (Duke II.) was got by a roan bull, Duke. During all this period Mr. Bates' stock possessed the greatest uniformity. It was his point to have, and he had (and still has, though his color is now red and white and roan, the latter coming from his cross with Belvedere, a Princess tribe bull), uniformity in everything, color and excellence. Up to the introduction of Belvedere to his herd, he had adhered to his Duchess blood entirely (except in the case of two or three cows put to Marske), and had produced a disposition to sterility. But for this he would not have used a bull of another family. It is true that he might have, without this as a cause, resorted to Belvedere with advantage, for he was in everything, family and individual excellence, equal to the Duchess tribe. When Belvedere was brought into the herd, the only change he made in a marked manner to the eye, was that some of his get were roan. In essentials the herd remained the same. There was only to be seen that improvement which arises from renovation. It may be, and I incline to the opinion, that this renovation by change was necessary, and did really give increased style. Since 1831, Mr. Bates has used that blood, a union of the Duchess and Princess tribes, mainly, and has only resorted to any other in one instance, viz. Cleveland Lad. He was got by Short-Tail (by Belvedere, dam, a Duchess cow), out of the celebrated Matchem cow, the dam of Mr. Bates' Premium Oxford cow.

I do not speak more of Sir Henry Vane Tempest's stock, as it is little known in this country.

I have given these particulars in the history of the herds of the two Collings and Mr. Bates, for the reason that, both in England and America, they are well known and deservedly celebrated. These particulars will be new to most of the breeders of cattle. I have selected the Short-Horns as the great and deservedly leading race of cattle, *superior where they are good*, to all others, as a standard well known, by which to make a comparison. There have been but two uniform herds (I do not mean families) of Short-Horns yet ever possessed together, viz. Mr. Bates' and Sir H. V. Tempest's. From the herds of the two Collings, the vast mass of Short-Horns have been derived. These herds had all kinds of cattle in point of excellence, good and bad. The different herds scattered all over England and America derived from the Collings indiscriminately, have now all the varying character which their originals had. I have never seen anywhere in our country an *uniform* herd of Short-Horns. Among them, and in the same herd, I have seen the best and worst cattle I have ever seen. This might be obviated if it were not for the back breeding; for then the good might be selected and the bad killed. It is the ones, good as individuals, with a bad tendency in the strain back, which breed the bad ones. Some very fine cows, when put to the best bulls, will never breed any but the poorest of bulls, which, when grown up, will be coarse and worthless. Men, on account of the blood of a particular family, will adhere to a bad animal, or a good one that breeds badly, and thus engraft on still deeper plant the tendency to badness. I know a small herd in which there are very superior cows and some worthless ones. Of them I have two in my mind. They will represent the whole herd. The one is compact, fine, light in the offal, ripe in the prime points, with good style and constitution. The other is *big* (in one way), with large head, Roman nose, ewe neck, thin back, large bone, open ribs, staring coat, hard skin, and harder flesh. These two cows are bred in blood essentially alike. They are owned by a critical judge, but he loses his keenness when his own breeding is at stake. He would reject the bad cow in an instant if she were not his. But the same blood produced both, and he hopes that the *blood* will overtop the individual defect. But she was got by a good animal. It is her blood that has produced the defect, and she will transmit it increased in power.

I have thus dwelt very fully on the principle of uniformity, for the reason that there is no certainty in breeding without it. In doing so I have resorted to the best known herds to illustrate. If a herd of cattle can be found perfectly uniform in its excellences (whatever they may be), it must be superior, in that regard, to any one defective in this point.

II. Cattle, as individuals, should possess certain conformations to make them excellent. It is easy to say that cattle should have full briskets, round chines, full crops, broad backs and loins, long, level and full rumps, round ribs well back, deep flanks, and fine thighs. Every breeder who fancies (and the most are mere fanciers and not possessors of knowledge) that he knows everything relative to cattle, will prate in this way. It has become the fashion, and each takes his *rôle* as the parrot does her oft repeated chatter. Yet ask one of them where the prime meat lies in a carcass, and he cannot tell you; send him to the market, and he will in his ignorance suffer his butcher to sell him any piece at pleasure as prime meat. Go to his yard, and he will point you to his cattle, that are bad in brisket, chine, crop, back, loin, rump, rib, flank, thigh, and claim your admiration. If he has a bull to show, he will exhibit him as a jockey does a stallion, parading him on rising ground, thrusting his head up and of course sinking his back till it is hollow, and his haunch sticks out like a starved calf's, stuffed for show with bog hay. This may be called *stallionizing*. When he takes you to his table, and his cook has served the piece of beef that his butcher sold him (and if bad cheated him in it), he does not know how to cut it; he carves so that, if good, it is made poor, and if poor, worthless. Yet this same man, if one criticises his cattle, will condemn the judgment. He assumes to be a judge, and goes to cattle-shows and acts as such. His judgments will go by his fancies, and by the interest he has in particular strains of blood; and these will follow the pedigree of the animals or their breeders' reputation. If he be interested in the stock of one of two rival breeders, he will condemn that of the other. He will perhaps fancy one point and have a proper notion of it, and will on that one point praise or condemn an animal, and on it make awards, and in most cases wrongly. Into the herd of this *judge* a purchaser who really knows, shall go and choose his *best* animals, and the *judge* will laugh in his sleeve at the *ignorance* of the buyer. The purchases made by drovers and butchers (who know and keep their knowledge to themselves) out of farmers' herds daily illustrate this. If he has wealth and is a breeder, with a large herd having fashionable pedigrees, he will scatter worthless cattle far and wide, bought by ignorance as profound as his own. He, and all like him, are the dupes of English cattle jobbers, who foist upon them, miserable brutes, with high sounding pedigrees, at enormous prices. And like this one breeder and judge are the whole race. They know nothing that they do not plagiarize; and when knowledge is given to them, they learn its words and retail them without their spirit.

I draw this picture for the reason that by such judges different families and herds (among them the Herefords) have been decried and depressed, and by such I shall be judged and condemned. For my opinion of Mr. Sotham's cattle I have not received one word of approval save from one *real* judge (a Short-Horn man exclusively, too), but from many, those of censure. But in the mean time while the Herefords have been decried by breeders of other races, by opposing interests and prepossessions in favor of other kinds, on the one hand, keen-sighted judgment begins to see and purchase on the other.

Now what are the excellences of cattle? I propose directing my remarks only to the *consumable* excellences. Head, neck, legs, tail, I shall not here notice. They are mere offal, and are not eaten. They are good or bad in themselves only as they connect themselves with consumable excellence, &c.; in themselves from their nature only indicating goodness or badness, and of no consequence otherwise. Were I to discuss them here, it would occupy more space than proper at present.

Passing them, I will take up first the brisket. Here lies, in a proper beast, some of the finest corning pieces in the whole carcass. If the brisket be full in front and broad between the legs, there will be a large layer of fine flesh on it. There is the same amount of bone in a bad brisket as in a good one. The expansion into prominence is nearly, and in breadth wholly, from flesh. Hence a thin brisket is all bone and worthless; a full one is covered with flesh and is valuable.

2d. The chine should be broad, full, and level, and why? If it be sharp and thin it projects. There is *more* bone in a thin chine than in a broad one; it is higher. The space upon which muscle attaches itself is so much larger, that more is devoted to that purpose. Now the more of a given quantity of flesh that is used to attach the whole mass to its appropriate bones, the greater the tension, and from the tension the tougher the beef. When the chine is broad and round, the bones are lower and smaller, the space for attachment is smaller, and if the flesh be only the same in amount as in a high chine it will have less tension and be more tender. But a high chine is always connected with a flat rib; a broad chine with a round rib A flat rib attaches to the spine in an oblique direction, making an obtuse angle; a round rib attaches in a perpendicular direction, making a right angle. But the right angle will contain the most flesh. There is *more* flesh from the capacity of the enclosing space with the same cones, and it is tenderer, because less is used for attachment. Hence broad chines are excellence.

3d. Crops; these are bad for the want of flesh, and good from its presence. Hence full crops, being good ones, are excellence. The chines and crops are at the points where the primest beef lies. The animal, to be good, must have them good.

4th. The back and loins must be broad, and for the same reason that the crop must be broad, to have a round rib and space for flesh and small attaching surface for the muscles.

5th. The rib must be round; and for the reason that it gives breadth of chine and back, and makes a right angle at its junction with the spine, giving room for flesh and less attaching surface. It must be round also, to give more room to the viscera of the chest and belly, and these must be large, to give capacity to furnish the proper amount of nutriment to make a large amount of flesh. Round ribs are excellence.

6th. The rumps must be long, broad and level. The longer they are the more space for meat; they must be broad and level, for the reason that the chine and back should be. The rump makes some of the best steaks in the carcass; those next the hips are the very best in the carcass; the tail end of the rump makes the very best corning piece in the animal, and quite as good a steak as the meat of the *upper* part of the loin. The shorter the rump the narrower it is, and the less steaks and corning meat. When it is narrow the tail is high, the skin and muscles are rigid, and the flesh is not only small in quantity but poor. When it is broad and level, the meat is more in quantity and better in quality.

7th. The hip bones should be broad; this because of the formation which makes broad backs and rumps. The same bony formation which makes back and rump broad, makes hips broad; hence they should be broad. They are offal, but are surrounded by meat; and therefore are important as an indication, direct, not collateral, as in the case of proper heads and legs. The wider the hip bones the more space to hold meat, and the wide ones do hold the meat which the narrow ones cannot.

8. The thigh should be *small, thin, light* and *fine*

Here I am in opposition to the *fashion* which most Short-Horn men *follow* and *approve*. They follow and approve because it is the fashion, and for no other reason. I have not the space here to assign the entire reasons for my position. If any one is disposed to combat my opinion, I shall be glad to sustain with full reasons my view, and may, perhaps, do so hereafter without having them questioned. I will merely state that the larger the thigh the shorter the rump, and the narrower the hip bones. The pumpkin thighs have always accompanying them short rumps and narrow hip bones. The meat of the thigh at the lower end is always coarse. It will not make corned beef, and is only fit to be *dried* after corning. The larger it is, the coarser and poorer it is, being very dark and stringy. The larger it is at the lower part, the smaller it is at the point where it joins the rump. Now the best part of the meat at the thigh is the upper part next the rump. But when the thigh is very large it is at the expense of the rump and the upper part of the thigh. The rump is *prime* meat, and the *upper* part of the thigh is *good* meat, while the *lower* thigh is *inferior*. If the thigh be large, there will be less superior and more inferior meat. I ask that any one who doubts this position, shall view cattle in this respect and *measure* them alive, and view them dead, and eat them cooked. I never saw and never heard of a large thighed cow that was a good milker; or a large thighed ox that was a good worker. The larger the thigh the straighter the leg in the perpendicular, and a *straight* leg never went with a good bag, nor with working power. A straight leg is a bad lever, and the muscles of the thigh below are not the muscles of draught, but are a weight to prevent draught; the muscles of draught are along the back, loin, and upper part of the thigh. Thus big thighs make increase of bad beef and decrease of good; diminish the power of working, ruin the milking quality, and never are connected with fineness, but always with coarseness.

Such are the more prominent excellent qualities which cattle as individuals should possess, and which should mark, on the average, a herd. What single herd of large numbers can be pointed to, which embraces in every member an average of *all* these qualities? At least no Short-Horn *herd* of any numbers, which has been bred and not collected, and even if collected, if numerous, can be. If it can be I should be glad to know it, and would go a long way to see it.

To all these requisitions the Herefords of Messrs. Corning and Sotham answer fully. In head, horns, necks, tails, legs and paunches, they are fine; their offal indicates the high order of the consumable excellence of their carcasses. In their briskets, chines, crops, backs, ribs, hips, rumps and thighs, they are superior and *uniform*. In their milking qualities they are excellent in quantity and quality. Are they not then valuable? They are indeed, and should be widely disseminated.

In my next I shall consider them in detail. If I do not show that as individuals they all are equal on the average to the standard I myself have made by which to measure them, then shall I fail to sustain my position and my judgment. Of that I have no fear. I am confident that my position is well taken and will be sustained. A. S.

## POTATOES VERSUS WHEAT.

**A notice worthy the consideration of farmers.—On page 46 of Ellsworth's last report from the Patent Office, in speaking of potatoes, he says (quoting from Jacob's Corn Law Tracts), that an acre of land with the same labor and manure will yield 300 bushels of potatoes or 24 bushels of wheat; and adds, that 7 lbs. of potatoes will give as much nutriment as 2 lbs. of wheat. Let us see the result. The nutriment of 300 bushels of potatoes at 60 lbs. per bushel, is 18,000 lbs., divided by 7 is 2,571; 24 bushels of wheat at 64 lbs. per bushel, is 1,536 lbs., divided by 2 is 768. It follows of course, that it would take 3⅓ acres of wheat to yield as much food as one acre of potatoes. Let us examine the value at market:**

| | | | |
|---|---|---|---|
| **300** | **bushels of potatoes, at 37½ cts., is** | **····** | **$112.50** |
| **24** | **" wheat, at $1, is** | **············** | **24.00** |

Again, at page 78, he gives the comparative value of 100 lbs. of potatoes as food, and says they are

| | | | |
|---|---|---|---|
| Equal to·········· | 25 | lbs. of | Meat without bone. |
| " | 28 | " | Beans. |
| " | 35 | " | Wheat Bread. |
| " | 190 | " | Parsnips or Carrots. |
| " | 300 | " | Turnips. |
| " | 400 | " | Cabbage. |

Can one raise 34,200 lbs. of carrots, or 54,000 lbs. of turnips, or 72,000 cabbage to the acre? If 34,200 lbs. of carrots can be raised to the acre, then the farmer should turn his attention to this root. 300 bushels of potatoes sold in New York at 37½ cents per bushel, would buy in Indian corn at 83 cents, 135 bushels of Indian corn; this would be the cheapest food he could give his cattle.

Von Thaer, in his Principles of Agriculture, makes 100 lbs. of good hay

| | | | |
|---|---|---|---|
| Equal to············· | 200 | lbs. of | Potatoes. |
| " | 460 | " | Beet-root. |
| " | 350 | " | Rutabaga. |
| " | 267 | " | Carrots. |
| " | 660 | " | White Cabbage. |

One acre of good grass land will give 3 tons of hay, say, 6,000 lbs. Do. do. 18,000 bushels of potatoes, equal to 9,000 lbs. of hay.

If this be true, let us see what a clever farmer, near a market, ought to do. Suppose he has

| | | | |
|---|---|---|---|
| 200 bushels potatoes to the acre, | at 37½ | pr. bu.·· | $75 00 |
| 2 tons of hay, | " $15 | | 30 00 |
| 60 bushels of shelled corn, | " 62½ | pr. bu. | 37 50 |
| 18 " wheat, | " 1.00 | " | 18 00 |
| 22 " rye, | " 75 | " | 16 50 |
| 30 " oats, | " 40 | " | 12 00 |

Surely, he ought to raise potatoes; for an acre of potatoes will buy for him, the

| | | | |
|---|---|---|---|
| Produce of·········· | 2 1-2 | acres of | Hay. |
| " | 2 | " | Indian Corn. |
| " | 4 1-6 | " | Wheat. |
| " | 4 1-2 | " | Rye. |
| " | 6 1-4 | " | Oats. |

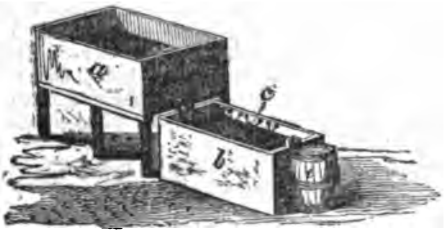
Let farmers think of this next year. Sell your potatoes this year and buy hay, straw and corn, even at the present high price for corn. R. L. Colt.

**A large Ear of Corn.**—A friend in Butler county, Ohio, writes us that one of his neighbors raised an ear of corn, the past season, 14 inches long and 8½ inches in circumference, which had 840 grains. It was raised on land which had been in cultivation thirty years without manure.

## CULTURE OF INDIGO.

I NOTICED some letters in your last volume upon the culture of indigo; and as it is one of the subjects upon which you originally invited my attention, I will proceed to state as shortly as may be, what I learned in my youth upon this matter. My father grew indigo, as a crop, until I was sixteen years of age, and was considered to have made a good article.

The laborers are divided into gangs of ten, and are expected to cultivate 30 acres to the gang. The soil should be moist whether loam or clay, well drained, and divided by small trenches 24 feet apart. The indigo is drilled 14 inches between the drills. The seed is very small, and should be soaked for a night, then mixed in dry ashes or sand, and sown along the drill carefully and regularly. Four quarts of seed carefully sown and well mixed in ashes is enough for an acre. In this climate the seed should be sown in the first week of April. When it first comes up, it resembles white clover or lucerne, and should have the grass carefully picked by hand from the drill. When it is an inch or two high, it must be weeded between the rows, and the soil loosened about the roots. Three weedings are enough before the first cutting, which should commence about the first week of July, or as soon as the indigo begins to throw out its bloom.



INDIGO VATS.—FIG. 10.

For every set of ten hands, there should be what are called a set of works. These formerly cost about $100 or more, and were a vat or tank, made of plank two inches thick, well joined. This vat (*a*) is 20 feet square, stands upon posts 4 feet from the ground, and is kept tight by wedges, driven into the sleepers upon which the plank rests. The vat is 3 feet deep, and is called the steeper. Along side of it is another vat (*b*), 20 feet by 10, occupying the space between the bottom of the steeper, and the ground, into which the water is drawn, in which the indigo is steeped, when ready to be beat, or churned as we may say. At the end of this last vat, a small tank or cask (*e*) must be placed, to furnish lime water in the process of beating. The liquor is drawn from the steeper (*a*) by a spigot at the bottom of the vat, along the beater (*b*). Lengthwise of this, is stretched a beam (*c*), resting on its upper ends, and revolving on journalls, and furnished with cross arms, to the ends of which are fixed open buckets without bottoms, containing about two gallons each. Two men, standing on this beam with a handspike fixed to the long beam, alternately plunge the open buckets right and left, thus churning the liquid until it begins to show a blue fecula, which is produced by small quantities drawn from the lime cask (*e*).

Indigo is so easily injured by the sun after being cut, that the cutting begins and ends in the afternoon. As it is cut by the common sickle or reap-hook, it is carried either to a shed, or conveyed and placed immediately in the steeper, where it is carefully spread. When the indigo is placed in the steeper from 2 to 2 1-2 feet deep, pieces of scantling are placed across the indigo weed to keep it down and from rising as the water is pumped upon it out of the reservoir. This operation should be accomplished about sunset; and a steeper of this size usually takes about an acre of ordinary indigo weed to fill it. The time of steeping is usually from 9 to 10 hours, depending upon the temperature of the water; the warmer it is, the sooner the process is over. But when the water assumes a light olive color, it is time to draw the water into the beater, and the process of beating commences, which is continued until the fluid becomes lighter in its general shade, and blue fecula begins to show in the water; which the sooner begins from small quantities of lime water having been let run by a spigot from the lime water cask, from time to time during the process. After the fecula shows itself distinctly in the water, the vat is left to repose for four hours, when the water is slowly drawn off by holes at different heights so as to allow the indigo to subside to the bottom; as soon as it has done so, it is carefully collected into bags which are hung up to drain. When sufficiently drained, it is placed in boxes 2 feet by one foot to dry under gentle pressure. When sufficiently firm, it is divided into squares, by rule and some sharp instrument, and placed under the shade to dry—commonly, in the upper story of a house. The varieties of indigo were produced, by the time in steeping, in beating, in liming. The shorter steeping and less beating produced the flotent or light blue indigo. But in looking back upon this process, I am astonished at remembering the indifferent and often turbid water that was used in steeping the indigo; which must have injured its quality.

In the dying houses of England, a filtering apparatus is made by four boards nailed together, 20 feet long, and a foot square, which is filled with coarse sand or fine gravel, with the ends stopped by two other boards, with very small holes in them, and the water used, is drawn through this wooden filter, from the reservoir, out of doors, to the vat within the house, which purifies the water—this could be easily done here. Again, the frequent rain showers that occur in our common summers must have often disturbed both the process of steeping and beating, and thus injured the indigo. From all these causes, the warm process first introduced by Dr. Anderson of Madras, and described by him in the Annual Register of Calcutta, and given in a note appended to Bryan Edward's history of the West Indies, must be altogether preferable. This process is under cover, and it is only steeped two hours, the water being heated to 160 degrees. A house 30 by 20 feet would contain two steepers, 10 feet square, and two beaters 5 feet by 10, the heating apparatus being placed between them; and would as I think take off twice the quantity of indigo in a day, besides continuing the process after, by the usual one, when the nights had become too cold.

In Georgia the indigo gave two cuttings; and usually 60 lbs. of indigo, in the two to the acre which for three acres is 180 lbs. to the hand. With the warm water process, I see no reason to doubt we would have three cuttings, a better quality of indigo, and probably more of it; and this Dr. Anderson stated is the case.

My indigo-house has been built now two years, and I have only been prevented by the untoward seasons of the two years past from carrying out his plan.

The following is addressed to yourself and Mr. Partridge, whose communications upon this and other subjects, I greatly value. Why not throw steam into your steeper, for 10 or 15 minutes, and then pump the water from your tank? What is a little curious, steam allowed to pass off at the boiling point just heats to 160 degrees, the very point which Dr. Anderson found the proper temperature for extracting, or as I would say, taking off the coloring matter from the weed. Again we find, in all applications of steam, it acts more promptly and more perfectly than water—as witness the Turkish bath. By this process much labor would be saved in heating the water; we would have also an exact measure of heat; and experience would soon give the due measure of time. Nothing but my age and infirmities, combined with two bad seasons, have prevented my carrying out the experiment, but I would be gratified at having Mr. Partridge's opinion upon the subject. Thomas Spalding.

*Sapelo Island, Georgia.*

## VALUE OF ANTHRACITE COAL ASHES.

I have been a subscriber to the Agriculturist for the year past, and among the variety of subjects of which it treats, but more especially under the head of manures, I have looked in vain for an article upon the properties of ashes from anthracite coal, as an article of manure. (*a*). There is a vast amount of ashes annually made from anthracite coal in this vicinity, and throughout the country, and it becomes an important matter of inquiry whether they possess those fertilizing properties common to wood ashes, or whether they possess any value at all. Among us there is a variety of opinions upon the subject, some maintaining that they are not only of no value, but a positive injury to most soils, while others maintain that they are nearly or quite as good as wood ashes. I incline to the latter opinion. I would not say that they are *as* valuable; but that they are of sufficient value to make it an object for those who burn coal to save all the ashes for the purposes of manure. I have tried them sufficiently to satisfy my own mind; and if a simple statement of facts as brought out by my own experience will induce others to try the experiment, or will be the means of bringing up the subject for discussion in your paper, I am sure I shall feel gratified, and the community at large will be benefited.

In the summer of 1842, I put upon a piece of ground which I planted with corn, on the most barren parts of it, some two or three cart loads of coal ashes, spread broadcast, and very thick. The result was, that there was a very perceptible difference in favor of that part which was covered with the ashes, although it was on decidedly the *poorest* soil; and this difference was perceptible the year following in the crop of oats. In the summer of 1845, the same piece of ground was planted with corn (as the grass seed did not take well in consequence of the dry season of '43), and coal ashes were again tried on another part of the piece and applied as before, and with the same results; the corn being much larger where they were applied, than where none was used—indeed it was much larger than where the barnyard manure was used. It will be recollected that the summer of '45 was a very dry one, and such seasons are not commonly considered as favorable for ashes of any kind; but for aught that I could see, the drought affected that part where the ashes were the least of any. I am now trying an experiment which I think will test the matter thoroughly. Last fall I selected the most barren spot that I could find (and which in the spring I intend to plant with corn) of about four rods square, and sowed it very plentifully with coal ashes. If under ordinary circumstances, it yields a fair crop, I shall attribute it to the fertilizing properties of the coal ashes; and the result I will make known to you in due season.

*Milton, Ct., Jan.* 12, 1846. Geo. H. Randle.

(*a*) Our correspondent will find this subject treated at considerable length in Vol. 1, of the Agriculturist, pp. 236 and 324. Also a short notice of their value, Vol. 2, p. 11. We are not the less pleased, however, to be favored with this communication, and trust the writer will forward us an account of the experiments he contemplates making the coming season. We intend to bring this subject before the Agricultural Association of this city the present month; and get an analysis of anthracite coal ashes by some good chemist. We can then compare it with those of other kinds of ashes, and learn their exact value to the farmer.

## STALL FEEDING AND SOILING.

No person can carry out the system of stall feeding and soiling cattle, with a view of increasing the quantity and quality of manure, unless he has good premises for that purpose. Good barns and stalls, and good sized yards, are necessary for the profitable wintering of stock. Too few, I regret to find, are provided with these advantages. Let any one drive through the country and see with what small and scanty barns, sheds, and yards, the farmers are provided to make the most of their cattle through the winter. Many a man is cultivating from 200 to 300 acres of good land, when he has not buildings for more than half the quantity he works. I believe it is admitted by every one who has cultivated strong, wet, clay land, that before any improvement can take place, it must be well drained. This is not an expensive process. If the farmer will only take a good agricultural paper, in which he will see the best modes that have been tried by others, he may easily accomplish it with a little energy and perseverance on his part. He may be assured that the money and labor will be returned to him ten fold. I believe if the farmers of this present day will drain their lands where it is wanted, get a good new improved sub-soil plow, and not be afraid to plow deep, they may accomplish more than they are aware of.

*Dutchess Co., N. Y.* J. D. Williamson.

## SCRAPS FROM MY NOTE BOOK.—No. 1.

While travelling over the United States for several years past, I have jotted down in a memorandum, whatever appeared to me worthy of note, and which might some day be interesting to those who take pleasure in increasing their agricultural information. And here I give you a scrap about

*An Orange County Milk Farm.*—While on a visit at Newburgh last summer, I made the acquaintance of Mr. J. R. Colwell, who lives on a farm of 280 acres, 2½ miles from the river, and upon which he keeps 50 cows, 4 oxen, 5 horses, and varying numbers of young stock. About 60 acres are in grain cultivation; the other in pasture, mowing, and woodland, which latter, however, is pastured. The average crops on this, as well as adjoining farms, may be fairly stated as follows:—Corn, 40 bushels to the acre; rye, 20; oats, 40; and hay, one-and-a-half tons. Of course the great reliance for profit is upon the milk sent to the city market. This is sold at an average through the year of two cents per quart, delivered on board of steam-boats at Newburgh. Mr. Colwell expects his cows to average 5 or 6 quarts of milk per day through the year, which will be in a year, at 5½ quarts per day, 2,007½ quarts, at 2 cents, $40.15, which is a little below what is generally calculated for the average produce of cows in Orange county.

Last year Mr. Colwell only kept sixteen cows, from which he sold milk to the amount of $890, making an average of $55.62½ to each cow; a very pretty little item for some of us out west, who brag of our great prairie pastures, to set down opposite our account of profit, where cow-keeping costs nothing, and the profit is in exact preportion.

But I must tell how Mr. Colwell's cows are kept. In summer, upon good pasture, watered by such springs and rills as are always found trickling through a mountainous country such as this is. At six o'clock regularly through the summer, they are brought from the pasture to the yards, and milked, and then turned out in a different pasture during the night. This change of pasture every night, Mr. Colwell looks upon as an item of great importance. When the pasture begins to fail, say 1st of October, he commences feeding half a bushel per head per day of brewer's grains, which are hauled each day from Newburgh, and fed to the cows in heaps laid upon the clean sod. The winter feeding commences on an average the middle of November, and ends about the 10th of May. The cows are all stabled through the winter, and at present turned out to water; but Mr. Colwell intends to fix his stable so as to water them as they stand in the stalls. For winter feed, everything of straw, hay, or stubble kind, is cut up, and corn and cobs, and occasionally oats ground, and two quarts of this meal, with three pecks of brewer's grains to each cow, is mixed up with the chopped straw, &c., twelve hours before feeding, and given in quantities to satisfy each appetite—not forgetting a daily allowance of salt. This feed, and a warm stable, gives him almost as much milk in winter as in summer. When I was there in October last, the price of grains was four cents per bushel, and I think I understood Mr. Colwell, that was his contract price through the year. If you will add the present prices of hay and grain, it will be interesting to some of us "outside barbarians," and enable us to "calculate" the cost of milk. [We shall be obliged to Mr. C. if he will do this. Ed.] Mr. Colwell could give you many other items worth your notice, I dare say, and I engage you a most hearty welcome, if you will give him a call.

There is another thing connected with this farm that gives it a claim upon the notice of every true American, who loves the mementoes of our Revolutionary history. It is the very ground occupied by Washington's army, while he occupied that memorable old stone house in Newburgh, which is still known as Washington's Headquarters. It was upon this farm where our toil-worn, poorly fed, and worse clothed soldiers used to lie down in far worse winter-quarters than do the present occupant's cows, and at times, too, when they would have been right glad of some of the good, sweet meal now fed to them, to say nothing of the rich milk poured out upon this field of Mars, where the verification and benefit of beating swords into plow shares is so well illustrated. Relics of those ancient days, are still plowed up from time to time, as the plowman becomes satisfied of the truth of turning up gold if he will but *plow deep.* Far more likely to plow it, than to dig it up, out of "Kidd's ship," which some of that numerous class of people who seek to live by any other mode than plowing, either deep or shallow, are still shallow enough to try to do at a place on the river below West Point called Colwell's landing, after one of the ancestors of the gentleman I have mentioned, and who accompanied me down the river and pointed out this and many other interesting spots. Here it is said, $20,000 have been spent in money digging, which, if it had been spent in digging the soil, would probably not have been sunk like the present expenditure, deeper than that sought after.

*Quantity of Grass Seed sown to the Acre.*—In my own neighborhood, and many other places in which I am acquainted, four quarts to the acre of timothy seed is thought to be a good seeding; and I am laughed at for talking about putting on half a bushel. If such men ever read, I should like to have them learn how they seed land in Orange county. Noticing while on a visit to Mr. Charles Downing last fall, that he was seeding down a piece of ground—dry gravelly loam upon a side hill, I had the curiosity to see how much seed he put on to the acre, and found it was half a bushel of clean timothy, one-fourth of a bushel of orchard grass, and one-eighth of a bushel of clover. Now, *if* four quarts is enough, what a waste of seed is here? And equally wasteful was he in the labor bestowed upon the land. Not contented with plowing and throwing on the seed in a windy day, he actually sowed it carefully even, and then harrowed the ground until smooth. And what is more, picked up the roots, stones, and trash, besides the waste of putting on manure.

"Well, no wonder such folks can make $55 from a cow in one season—we can't do it out west, that ar' a fact, stranger; but then we can *live* without it."

That is the answer—"*we can live*"—yes, we can and do live, the Lord knows how; but you never will till you come and see. "One half the world don't know how the other half live."—No if they did, they would try to live better. If some of "your folks" "down East," only knew how some of "our folks" "out West," lived, or pretended to live by farming, they would be more contented; and if western land spoilers knew how eastern land skinners had skinned their land to death, they would not go on doing just the same thing. But they won't know, and, of course, won't do.

Solon Robinson.

*Lake Court House, Ind., Dec.* 6, 1845.

## TO GET SANDY WOODLANDS IN CROP.

I am cutting off the wood of a tract of land along side of the Long Island railroad, with a view of clearing it up and cultivating it. What is the best and cheapest method that I can pursue to get it into crop? You know that it is a poor sandy soil.

*Islip, Jan.* 13, 1846. G. A.

We would advise our correspondent to remove all his wood off as early as February, and cut and pile the brush. As soon as this is dry enough in March, commence burning it, and then scatter the ashes carefully over the land. Now take a strong break up plow, with a sharp coulter, which will go through the land and cut up the surface roots completely, 6 to 9 inches deep; it can then be as easily plowed with the common plow, as an old field. Give it a top-dressing of Peruvian guano, at the rate of 400 lbs. per acre, mixed with fine charcoal dust. Harrow this well in; then sow at least 3 or 4 bushels of oats to the acre, and half a bushel of clover seed. Harvest the oats when ripe, and neither feed nor cut the clover that year. If this advice suits our correspondent, we will, in a future No., tell him what further to do with his land.

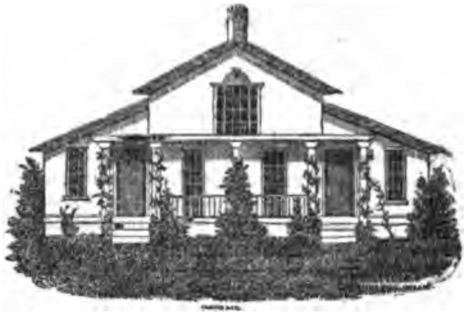
## A CHEAP FARM-HOUSE.

Whoever rears his house in air,
Will need much gold to build it there;
While he that builds an humble cot,
May save some gold to boil the pot.
While that so high the cot outshows,
Is hard to climb the good wife knows.
Who has the cot ne'er wants a home;
Who spent the gold to want may come

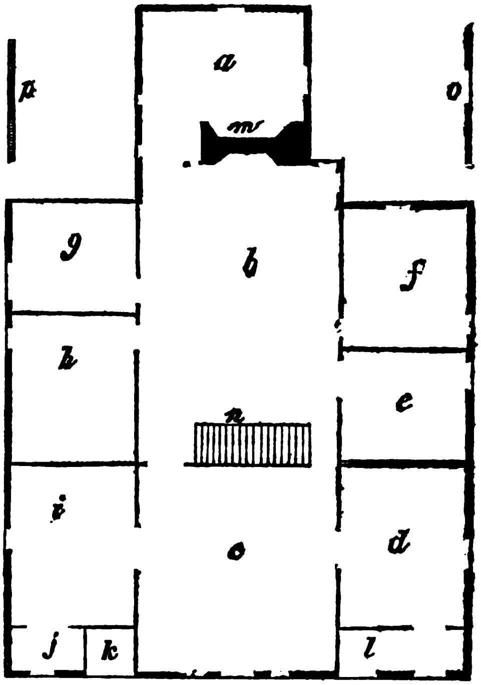
It is an old proverb, Mr. Editor, that many a man has built his house so big he could not live in it. Sometimes it is because he don't know how to build less. Can we help to show him? Notwithstanding the high character and the adaptability of Mr. Downing's works to the "upper ten thousand," the wants of the lower *ten hundred thousand* are not satisfied.

It is often the case, particularly in settling new countries, that a man wants something that will answer for immediate shelter, and which he would be glad so to build that it would by and by form part of the house—so he may be able to build part of a house this year, and part next year, and perhaps another part another year.

Now, any plan that is so arranged that the new beginner can build it in parts, having each part complete in itself, will be useful to many of your readers, who will never read "Cottage Residences;" and if they did, could not adopt a single plan in the book, for want of means. It is for the benefit of this class that I have arranged the enclosed plan. It is particularly intended for the *new settler*, and to be built on the *baloon plan*, which has not a single tennon or mortice in the frame, except the sills; all the upright timber being very light, and held together by nails, it being sheeted upon the studs under the clap boards, is very stiff, and just as good and far cheaper than ordinary frames.



Front View of Cottage.—Fig. 11.



Ground Plan of Cottage.—Fig. 12.

*Description.*—*a*, Wash-room, 13 × 13; *b*, kitchen 16 × 24; *c*, parlor, 16 × 16; *d*, *f*, *h*, *i*, bed-rooms, 10 × 12; *e*, store-room, 8 × 10; *g*, pantry, 8 × 10; *j*, *l*, clothes press; *k*, entry; *m*, fire-place; *n*, stairway; *o*, wood-house; *p*, garden gate; the pump should be in the wash room.

I would have a lawn in front, with shrubbery, and an orchard on the side opposite the garden. Between the garden and the house should be a road to the rear buildings, and between this road and the house I would have a strip of green sward ornamented with shrubbery. A corresponding strip also should be reserved between the house and orchard. All the rest may be left to the taste of the person owning the premises.

Now, suppose a family just arrived at the "new location," and designing to build a house upon the above plan. First, they need some immediate shelter. Two hands in two days, can put up the room 13 by 13, marked wash room (*a*), in the plan, with a lean-to roof, the sides covered with wide ¾ inch boards, feather-edged together, with a rough floor, which, with a rough shed to cook under, will serve for bed room and parlor while the house is building.

Next add the room marked kitchen (*b*), a good sized farmer's kitchen, 16 by 24. Board up the sides in the same way and finish off inside complete, and you then have a house with two rooms, the wash room answering well for a summer cooking room. Divide the chamber into three rooms, two of them 8 by 14 each, and the other 10 by 16, including the stairway (*n*). Make the posts of this part of the building 12 ft. 6 in. high from the sleepers of lower floor, and the lower room 7 ft. 6 in. in the clear; the joice ten inches deep, and the upper room will be 4 ft. high under the eaves, and you will consequently have to finish up the rafters till you get high enough in the centre.

Now add as you are able one or both of the wings, containing each a bed room 10 by 12 (*d*, *f*, *h*, *i*), and pantry and store room 8 by 10 (*e*, *g*); each of these is also a lean-to, the outside posts of which should be 6 feet high, and the roof rising 4 ft., will leave two feet above in the side of the centre building for lights into the stairway chamber. These side rooms will also have to be finished a little way up the rafters, to get height enough.

The sides of these rooms, which were formerly the outside of the main building, can be plastered or papered upon the rough boarding. Your house so far is a whole house, complete in itself, but next year you want it more extensive. Go on then, and add the front room (*c*), with or without the wings and porch, *d*, *i*, *j*, *k*, *l*, either of which could be added afterwards, by making your calculations as you go along, building one room after another as you are able, and until you finally get a very comfortable house, completed like the plan. In calculating sizes of rooms, I have not allowed for thickness of walls. The front chamber I would leave all in one room, with one large window in the front, and opening out upon the top of the portico, and having a drum which would be heated by the stove in the room below, and make a pleasant sitting, sewing, or nursery room, either in summer or winter.

As in all my design I aim at great economy of cost, convenience of arrangement, and occupancy of all the room for some useful purpose; so now I hope you are able to add a little cheap ornamental work to the front. Support the porch which is 6 ft. by 24, upon five neat columns, with railing, except the door way; make the roof flat, with a pretty little railing on top, so that we can come out of the front chamber of a balmy evening to smell the honeysuckles that have been trained up from below. Carry out bulwarks upon the roof of each wing, to hide the pitch. Put in a large window in the centre of the parlor front, of a half sexagonal shape, with two narrow windows each side, opening by hinges down to the floor, through which in summer we can also have access to a pleasant seat upon the porch, and still enjoy the company of those who might choose to remain within the room. For the sake of symmetry, I place a door at each end of the porch, only one of which will be an open sesame, unless perchance about the time you get the "new white house" done, the sovereigns should elect you justice of the peace, or you happen to be a doctor, or somebody else, that wants a room for an office, just see how conveniently you can open the blind door through a passage like that on the other side, into one of the front bed rooms (*i*), 10 ft. by 12, where you could keep your official dignity very snug, without disturbing the family.

The kitchen, which should be the grand desideratum in every farm house, you will perceive is so situated that it has only nine feet of surface exposed to the weather, which will save many a load of wood, and yet by opening room doors, it can be well ventilated in summer.

Until you do get the wood house built, you can use the wash room in winter to keep a stock of kindling wood. If you like the plan and have the means, of course it will be best to build the whole at one time. But, if necessary to build by sections, you can do as I have directed, or you can build the front part first, or build the entire centre part first, and afterwards add the different rooms that lean-to.

My object is to accommodate the new settler and poor man, with a plan by which he can get a home without building himself out of a house, or getting a great shell of an outside show, full of unfinished emptiness. Look at the plan and see how far I have succeeded, and such as it is, accept it as a Christmas present from your sick friend,

*Indiana, Dec.* 25, 1845. SOLON ROBINSON.

## GARDENING.—No. 1.

THE important benefits derived from gardening and the pleasure also associated with its pursuit, have obtained for it a distinguished rank among the various sciences which have occupied the attention of men. Its productions are alike calculated to cheer the frugal board of the cottager and to decorate the tables of the affluent. It furnishes pleasure, health and profit to the sedentary, the merchant or to the gentleman of fortune. Its practice relieves the mind from that bustle and confusion attendant upon a life of business—it is a source of healthy and strengthening exercise—and it is a recreation in which may be found endless gratification and delight. It has been the inclination of kings and the choice of philosophers. It has had among its most zealous practitioners, men from every grade in society and from every age and climate. "Our first most endearing and most sacred associations," observes Mrs. Hofland, "are connected with gardens; our most simple and refined perceptions of beauty are combined with them; and the very condition of our being compels us to the cares, and rewards us with the pleasures attached to them."

Gardening, like every other art, must be affected by the government under which it is exercised, either by its laws and institutions, or indirectly by the state of society as modified by their influence. Horticulture, in all its branches, will be most advantageously displayed where the people are free; the final tendency of such a state of society being to conglomerate property in irregular masses, as nature has distributed her properties; and this irregularity is the most favorable for gardening as a necessary, convenient and elegant art.

The religion of a people is also calculated to have some effect upon their gardening; for those religions whose offices are accompanied by splendor and show, and which have various fêtes and spectacles, will be favorable to the culture of flowers and plants of ornament; and those which forbid at certain seasons the use of animal food, will in some degree encourage the production of fruits and vegetables. In order more fully to observe the influence which the different states of society and climate have upon this science, it would be well to take a retrospective view of its progress from the earliest periods down to the present time.

The art of cultivating the soil, according to Sir Isaac Newton, was invented in Egypt. According to Herodotus, the sacred groves or gardens were often of extraordinary beauty, thus designedly corresponding with that primeval garden where the Almighty Ruler first placed man. Every sacred grove was a copy of Elysium, and the prototype of Elysium itself was the paradise of Eden. From Egypt, this art spread itself through Persia, Greece, and other ancient countries, that eventually came under the dominion of the Roman emperors. The first mention that is made of a garden in the Roman history, is that of Tarquinius Superbus, B. C. 534. Livy mentions this garden, but it can only be gathered from what he writes, that it was connected with the royal palace in the city of Rome, that it abounded in flowers and was supplied with streams of water. The villa of Sallust was situated on Quirinal Hill, and in Stewart's life of Sallust we are informed that these gardens were so beautiful, that when Rome fell beneath the sway of her Emperors, the imperial residence was fixed in them. Some idea of Roman gardens about the beginning of the present era, may be obtained from the paintings rescued from the ruins of Pompeii and Herculaneum. They are represented in these paintings merely as square plots of ground, surrounded with trellis-work and ornamented with fountains and urns.

Among the fruits that were introduced into Italy by the Romans may be found the fig and almond from Syria, the citron from Media, the peach from Persia, the pomegranate from Africa, the apricot from Epirus, apples, pears, and plums from Armenia, and cherries from Pontus.

There is no Roman author exclusively upon this subject, but we find it treated of by Virgil, in his Georgics, by Pliny in his Natural History, and by Columella in his Rural Economy.

The decline of the Roman Empire commenced with the reign of the Emperors. Violence and rapine stalked abroad at noon-day—invasion from barbarians followed, and the ferocity engendered by the troubles of the times, seemed almost entirely to efface from the mind of man the noble simplicity of nature. Barbarism rode rough-shod over man and the arts; warfare became the only occupation, and a taste for this ennobling science was entirely rooted out.

From the commencement of the government of the Popes in the 8th, to the 13th century, horticulture was practised only by the monks and houses of religious persons in Europe. Harte informs us that the monks of St. Basil and St. Benedict rendered fertile many tracts in Italy, Spain and France, which had lain neglected ever since the invasion of the Goths and Saracens.

In A. D. 1440, the art of printing was invented; this, with other causes, conduced towards the establishment of commerce in Italy and Holland, and the arts of peace to prevail. The splendor and magnificence of the popes and princes, the remains of ancient grandeur, and the blessings of peace and commerce tended to the revival of the arts in Italy rather than any other country. The Medici family, in the commencement of the 16th century, did much towards the revival of the art of gardening. The earliest private botanic garden was formed at Padua, by Gasper de Gabrieli, a wealthy Tuscan noble. It was finished in 1525, and opened for the inspection and gratification of the curious. At an early period of the Roman Empire, the valley of the Rhone was a favorite retreat of the nobility, and nowhere out of Italy are to be found such splendid remains of villas as in the Provincia Narbonensis, in France. Gardening, with the other arts, proceeded from east to west. The Crusades, in the 12th century, excited a taste for building and gardening in the north of Europe, although some authors state that even before this period the Dutch cultivated many useful and ornamental plants. The Christian invaders could not avoid noticing the gardens of the Infidels in Egypt and Syria, and being struck with their beauty, imitated their plans, and imported their productions into Europe. The 16th century, however, arrived before the culture of flowers was attempted. The introduction of the Christian religion, though at present favorable, was at first adverse to the use of flowers; the rites of religion, then carried on in gloomy vaults, were not, as now, accompanied by bands of music, statues, pictures, and altars decorated with flowers. Botany now began to be considered a science, independent of medicine. Gardens were constructed, destined for curious and beautiful plants; and the discovery of America and the passage to the Indies augmented their number. Travellers collected seeds, which they sent home to their respective countries; great care was bestowed on such as appeared the most ornamental; till, advancing by degrees, they at length became objects of luxury, and trade, and caprice; fashion and variety gave incredible prices for some of these productions; for in what will not extravagance intermingle?

The gardening of our own country is, to some extent, necessarily that of Europe; but within a few years vast improvements have been made in horticulture here. Societies for the diffusion of information upon this subject, have sprung up in all parts of the United States, and with their rise and progress a new impulse has been given to this art. The taste for Horticulture has rapidly disseminated itself through the public mind—more so, perhaps, than a corresponding knowledge of skill necessary for the cultivation and management of its objects; consequently works on this subject are eagerly sought after and attentively read. The raising of new varieties of various kinds of fruits from seeds, has for a few years past attracted much attention, and the time is probably not far distant when we shall be supplied with choice fruits, the results of our own experiments. Why should not our country take the lead in such matters? It is naturally rich in horticulture and botany, and with a genial clime favorable to the production of every fruit and flower.

L. T. Talbot.

## A BEE FEEDER.

It is well known to be customary in these days, to obtain a patent for every new invention that one is so fortunate as to hit upon. That idea, I must confess as a matter of course, occurred to me in relation to a *bee feeder*, but I shall do no such thing. I will deprive no man who wishes to feed his starving bees the free use of my mode of doing it.

"The common mode of presenting them with food," says Bevan in his work on Bees, "is to introduce it through the mouth of the hive in a long boat formed by scooping out the pith from an alder stem. This plan of feeding, independently of other objections, can only be adopted in mild weather; for whenever the thermometer, generally speaking, ranges below 45° Fahrenheit, the bees are indisposed to descend, and in severe weather none of them will quit the *central* combs between which they cluster, even to feed upon their own collected treasures, but will rather hang together and starve unless those very combs be the depositories of those treasures. To guard against this evil, a supply of *warm* food placed over the hive or box will tempt them to quit the cluster, and partake freely of the donation, secure from all danger of the food being scented by other families, as well as from the destructive effects of exposure to cold while partaking of it. His own mode of presenting it to them in the spring, is by means of a trough formed out of a board of close grained wood, such as sycamore or beech grooved by a turner into concentric circular channels surmounted by a bell glass." (See his work, p. 65.)

Further, "if feeding be required in cold weather, which should always, if possible, be avoided, it will be prudent to allow access only to the inner groove, and over this to invert a small glass that will dip nearly but not quite to the bottom of it. This will prevent those chills which are apt to be experienced where the warmth of the family cannot reach it, and will secure any incautious bees from drowning. The trough is more particularly suited to spring feeding. At this season, if the bees have had a sufficient winter's supply, feeding will only be required on a small scale, it being chiefly intended as a cordial to promote early breeding. The autumnal supply on the contrary should *always* be large, for feeding by driblets at this season of the year keeps up a continual excitement, and increases the heat of the hive to such a degree as to cause increased consumption and probably to injure the health of the bees. For this wholesale feeding he recommends the trough invented by Mr. Dunbar. It is turned in a lathe out of a solid piece of close grained wood, holding half a pint of syrup, into which the bees ascend through a wooden tube, passing over the top and down the outside till they reach a float which is pierced with small holes. There are other particulars connected with it which it is not necessary here to detail."

I have extracted thus largely from Bevan's work (believed to be sufficient authority) to present several facts connected with the subject of feeding which it is necessary to consider in determining the merit of a new invention.

The feeder now to be described is made of tin, and consists of a cylindrical vessel with a tube inserted, to which is applied a small cup that must always be partially filled with liquid while the vessel contains any. Whenever the syrup is reduced below the apertures in the tubes at the bottom of the cup, a bubble of air ascends into the vessel, by which a fresh supply is let down. It is prevented from overflowing by the pressure of the atmosphere. The apertures in the tube of the cup are four, to which the end of the tube over which it is applied is cut to correspond.

Fig. 13, is a section of my feeder in a vertical plane, through the apertures in the tube of the cup, shown as filled and inverted, in order to be applied to the hive. (*c*) is a tube four inches in length and half an inch in diameter, over which the tube of the cup (*b*) fits closely and is pressed on the former until that is in contact with the cup, care being taken that the apertures for the passage of the syrup, as shown (*e e*), be preserved through both. The cup is one inch in diameter and half an inch in depth. The tubes and cup are covered with wax, as being more agreeable to the bees. (*d*) Is wood surrounding the tube, and exactly fitting the aperture in the top of the hive. (*f*) Is a section of the cup and its tube, shown as removed from the other portion of the feeder, and exhibiting two of the four points where they are soldered together. (*g*) Is an instrument of tin of cylindrical form, stopped at one end and notched at the other, for making an aperture in the hive to admit the tube of the feeder. Press down very gently while turning it round. The portion of comb included in it will thus be removed without injury to the rest or to the bees. The application of the feeder would be facilitated were a wooden tube to be inserted through the top board of the hive, or at least a suitable aperture made before the bees had possession.

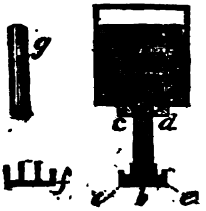


Fig. 13.

Two advantages are claimed for this feeder, which it may now be proper to state. 1st. When the feeder has been applied, the bees will require no further attention until the quantity allowed them has become exhausted. 2d. It is adapted to winter-feeding as well as that of fall and spring. The bees have a constant supply in the upper part of the hive kept warm and fluid by their own heat, to which they can help themselves at any time and in any quantity they please.

I have had four feeders, holding from two to five pounds of syrup, in use two seasons, the contents of which have been entirely emptied except in a single instance, where the small passages from the tubes to the cup were clogged by sediment. This circumstance taught me the necessity of straining the syrup.

If the cups have sometimes overflowed I know not; yet I have often looked through the glasses of the hives to see, but have never observed any syrup on the floor boards. This fact leads me to conclude that when, by a sudden elevation of temperature, a quantity is forced out by the expansion of air within, the vessel being partially empty, the bees from the same cause require a greater quantity of food, which compensates the supposed difficulty. The former season I surrounded the feeders with saw dust as a bad conductor; the latter they had over them empty boxes only. The precaution is, however, to be recommended. Bevan recommends as the best spring food for bees and also the best substitute for honey in autumn, the following compound: one pound of coarse brown sugar and three-fourths of a pint of ale, boiled to the consistence of a syrup, to which should be added a teaspoonful of salt. PHILETUS PHILLIPS.

*Middletown Point, N. J.*

## CULTURE OF POTATOES.

THE December No. of the Agriculturist contained a short article upon the Potato Rot, and an invitation to its readers to contribute facts relating to the *cultivation* of the potato.

My farm is upon the banks of the Connecticut, and the soil is of alluvial formation. Such soils are not favorable to the production of potatoes, as they are too close, and harden from the influence of the sun after rain. The porous, moist, upland, is congenial to the potato. Upon our *intervals* [meadows or bottoms skirting the river] we prepare the potato ground precisely as we do for corn, by spreading upon the green sward coarse and unrotted manure from the barn yard, and turn under as early as we can. After rolling and harrowing, we plant upon the surface in hills about three feet apart in the rows, and make the hill as large as we can. We do not hoe more than once, except in wet seasons, when the weeds flourish.

I planted one piece in the usual manner as early as the middle of April, and on the last day of May I planted another piece upon the same swell of land, turning under a good coat of grass to the depth of five inches. I then sharpened a stake (not very sharp), which was about three inches in diameter, and put an inch pin through it about ten inches from the bottom, so that stepping upon the pin I could easily perforate the sod. I then began making my holes between the two first furrows, about eighteen inches apart, and continued to do so in every fourth lap through the field. I then put one medium sized potato in each hole, forcing it down to the bottom of the sod, and covering it with my heel. After planting the whole field in this manner, I went over it with the roller, which left the surface perfectly smooth. After the tops were three or four inches high, I plastered them, and covered the plaster an inch or two with my hoe. Before the tops got to be too large, I went between the rows with a cultivator, and pulled the weeds out between the hills. The result of the experiment was very gratifying. The crop from this piece was almost twice as large as from the other. The potatoes were larger, and much finer for the table, and cost me not more than half the usual labor. I would observe that this experiment was made upon dry soil, and in a very dry season. The process of decomposition underneath the sod concentrated the moisture, and the unbroken surface prevented evaporation. When I harvested (which I think should be as late as possible and avoid the freezing), I found that the tops came from below the sod, but the potatoes were upon the surface, some of them out of the ground. I shall try this mode again, and place the potatoes twelve inches apart in the rows.

I have escaped the rot, although all my neighbors have suffered from it the two past years. I cannot account for it, but reasoning from analogy I have formed the following opinion: That if the disease is caused by an insect, the plant may be too mature, or not sufficiently so when the insect appears, to suffer from such attack. Therefore we succeed best when we plant *early*, or *late*. This same theory would apply equally well to the supposition that the disease is the effect of the damp, hot weather of August. In sowing wheat in the spring, we know that we escape both the weevil and rust, either by late or early sowing, and I have noticed that the blast in the potato, and the rust on the wheat, come together.

WM. BELLOWS.

*Walpole, N. H., Jan.* 13, 1846.

## CULTURE OF SUMACH.

IN September, 1843, I sent you an article on the cultivation of sumach, which appeared in your number for October. I am pleased to inform you, and the friends of American industry generally, that the quantity sent from the south for the past year, 1845, mostly from Virginia, has been equal to about 10,000 bags, equivalent to 700 tons, being nearly one-twentieth of the consumption of the country.

I mentioned in my former essay, that the most astringent vegetables, or those containing the largest portion of gallic acid, are raised in warm climates. Now, although the sumach sent from Virginia has been used in place of Sicilian, yet that which can be raised in South Carolina, Georgia, Alabama, and more particularly Florida, would be of decidedly better quality. I would, therefore, call the attention of enterprising citizens of those States to the article, and can promise them they can cultivate no product that will pay them better.

I stated in my article of 1843, "that I had been informed sumach would not reproduce from the seed, it being a hybridous plant; but on consulting a Mr Woodward, who sent the seed of our sumach to England, he says it will reproduce, as much of the seed sent there produces bountifully." He states that it should be gathered as soon as ripe, and planted soon after, so as not to become too old. This I consider an important fact, and one which our southern planters should embrace; for by planting the seed, and mowing down the shoots three times annually, they might obtain from three to five tons per acre, with much less expense and trouble than by gathering and bringing home the natural growth scattered extensively over the country. The sumach is perennial, and when once planted would last for ages, the crop when sown annually increasing until the ground became full of roots.

I refer those who may be desirous of cultivating sumach, to my former article, for the time of cutting, and the modes of preparing and packing the article for market. WM. PARTRIDGE.

## AMERICAN AGRICULTURAL ASSOCIATION.

THE regular monthly meeting of this Association was held at the Historical Society rooms, on the 7th of January. Hon. Luther Bradish, the President, in the chair. The minutes of the last meeting were read and approved.

*Dr. Gardener* presented a copy of the first annual report on the Geology of Vermont.

*Dr. Alexander H. Stevens* stated that he had sown for experiment, the clover seed received from the Society, under the name of Persian clover, at a former meeting. It proved to be lucerne. He further remarked that he had previously grown lucerne with much advantage, and considered it superior to any other green crop. A discussion arose, and many inquiries were made in relation to this crop, from which it appeared that it possessed such advantages over other crops, under favorable circumstances, as to make it an object of importance to cultivate it more generally than is done at present.

*Mr. Stevens* described a successful mode of destroying Canada thistles, where the roots had penetrated beyond the reach of the plow. His plan was to cultivate the ground thoroughly, and seed it down with red top grass seed, sown liberally, so that the sod should smother the young thistle, and thus prevent their growth. He also stated that he had sown some of the New Zealand spinach seed distributed by the Society. He had succeeded in raising a few plants, and found it a valuable vegetable for the table. Several gentlemen, who had also received this seed, reported that they had not been able to raise a plant.

*Mr. Andrew H. Green*, Cor. Sec'y, made his report. He read communications from Gov. Reed, of Bermuda, and Dr. Philips, of Mississippi, accepting the appointment as councillors of the Association; he also produced a translation of the pamphlet of Baron Von Speck, on sheep, which had been referred to him for translation. He had translated it himself, and wished the Association to consider whether it was best to publish it. Messrs. W. S. McCoun and A. B. Allen were appointed a committee to examine the translation.

*Mr. R. L. Pell* read a valuable essay (see a condensed report of it below) upon the subject of prepared manures, and their effects upon his crops for several successive years, after which he directed the attention of the Association to the importance of introducing the Peruvian alpaca into this country. He presented a specimen of their wool. It was moved that a committee of three be appointed to investigate the subject, and bring it before the Society at a future meeting. Messrs. R. L. Pell, J. S. Skinner, and Edward Clark were appointed.

A motion was made that a committee be appointed to inquire into the subject of the waste manures of the city, as alluded to in Mr. Pell's essay, and to suggest such means as would enable the city to be relieved of this nuisance, and at the same time benefit the agricultural community by furnishing them with a valuable manure. Messrs. Stevens, W. S. McCoun, and S. T. Jones, were appointed as that committee.

*Prepared Manures, and their effect upon Crops.*—Mr. Pell rose and said: By analysis it is known that all cereal grains, cruciferous and leguminous plants, trees, and shrubs, require in the soil the same chemical substances, but in different quantities. These are eleven, viz: potash, soda, lime, magnesia, alumina, oxide of iron, oxide of manganese, silica, sulphuric acid, phosphoric acid, and chlorine. If one be absent, the soil will not grow any cultivated plant. Hence analysis of soils is necessary for a proper and economical application of manure. In a barren soil one necessary ingredient alone might be absent. If, then, ten ingredients be added and the eleventh kept back, the soil is still barren. Hence, the reason why so much of New York will not grow wheat, and yet will grow other grain: the requisite quantity of some one or more chemical ingredients necessary for wheat is absent, but in sufficient quantity for rye, &c. When, at last, cultivated plants cease to grow, the five-finger vine appears, as it requires still less of them. In such a stage it is not rare that an expense of three dollars per acre will enable soil to produce thirty bushels of wheat. I produced 78½ bushels of wheat on a piece of worn out ground, by fifty cents worth of two ingredients. Like produces like; and hence if straw of wheat be given to the ground it will produce wheat: indeed, wheat may be grown on a pane of glass, if the seed be covered with wheat straw in a decomposing state. Hence the farmer may sell the grain but not the straw. The farmer who sells straw becomes poor; he who buys it, grows rich.

I apply straw to the cattleyard; it absorbs the liquid excrement, and rots. What is long or partly unrotted I apply to hoed crops; what is fine I mix with the eleven requisites and apply as a top dressing. It may be advisable to apply the straw to the ground and plow it in when unrotted. To grow grains give the soil straw of its kind; for potatoes, their vines; grapes, their vines; to apples their branches; and so of all. The droppings of cattle are the best manure to grow grasses, as they feed on grass; those of horses fed on grain for the growth of cereals. Onions are grown year after year by only returning the tops to the ground. In Virginia, had the refuse of the tobacco plant been returned to the soil, she would not now be barren. The bad farmer is injured by the vicinity of well manured land, as manure has an affinity for oxygen, hydrogen, ammonia, &c., floating in the air, and attracts them to the provident farmer's land.

Formerly, I applied composts of various things, and had wonderful results; I dared not omit any one, as I knew not which had produced the result. Now, science by analysis shows what is necessary. By these composts, I grew a squash to weigh 201 lbs., the heaviest on record; and a cabbage to weigh 44 lbs. By it I grew wheat to weigh 64 lbs., rye 60 lbs., oats 44½ lbs. When Sprengel made known his analysis, showing that eleven substances are necessary to all good soils, I found that my compost by chance had them all, and twenty other enriching ingredients.

Previous to 1840, my orchards bore only every other year. Since then I make them bear every year: and this year, a bad one for fruit, found my manured trees full, and those not manured barren. The drought of this year was fatal to fruit; yet my manured trees had abundant moisture and were fruitful. I prefer the manure of decayed vegetable matter to the excrement of cattle, as the material that makes and supports the animal has been extracted, and the excrement is not so rich on that account. If the vegetable matter be rotted and its ammonia fixed by charcoal dust, all the chemical substances are present. Thus rotted vegetable matter is more beneficial than the dung of cattle, quantity and quantity alike.

A most valuable manure is the liquid remaining after the boiling of bones. It is very offensive unless disinfected. When hot it is not offensive, but becomes so when cold. It is a jelly when cold. By the application of charcoal dust to the hot liquid, the jelly when cold is not offensive. In this state it may be made into compost with other substances. In that condition it is a most valuable manure. At present large amounts of the liquid are thrown into the rivers. I prevailed upon a grinder of bones to save his liquid by charcoal, and he now sells what formerly he hired carried away. I have used it with great advantage, both on arable and meadow land.

Charcoal is one of the most valuable manures. It is the most powerful absorbent known. It takes from the atmosphere oxygen, hydrogen, nitrogen, ammonia, &c., and holds them while the weather is dry. During rain it absorbs 80 per cent of water, and releases the gases to descend to the earth to fertilize it. When the weather becomes dry it parts with the water, and absorbs from the air the gases again. This it continues almost perpetually, as it is nearly indestructible. When applied to the earth, the trees, plants, and grasses are found to have it adhering to their roots ready to impart gases and moisture as wanted. Trees packed in it have remained green for 80 days, while others without it have died in like circumstances. Hams and salt meats are preserved perfectly when packed in it. I preserved apples in perfect condition for one year in it. If spread over compost heaps, barn-yards, stable-floors, in privies, it absorbs the ammonia, prevents offensive smells, fixes the volatile gases, and thus makes a valuable compost.

Ashes applied to sandy soils are valuable; and on some soils leached are as good as unleached. I have known land too poor to grow 8 bushels of corn, made to produce 45 bush. by ashes alone; and they are more valuable on a sandy soil than any other manure except marly clay. They enable the sandy soil to retain its moisture, a great point. They are used to great advantage on Long Island and in New Jersey. They stimulate growth as does plaster. Sown broad cast on grass, the effect is perceptible at a great distance. The yield the first year on sandy soils in grass, will pay the expense of applying forty bushels to the acre. They give to the soil silicate of potash, which is needed to form stems.

Ashes have two actions on soils, viz., chemically by alkali they neutralize acids; and mechanically by rendering sandy soils more tenacious. Muck is made valuable by them, when mixed in compost; the acid of the muck is destroyed by the alkali, and fermentation follows.

Lime has been used by me to great advantage. I prefer oyster shell lime, as it contains no magnesia, which most stone lime does. I think oyster shell lime has a tendency to lessen in growth the stem and leaves, and increase the fruit and seeds. I put on barren or worn out land 300 bushels oyster shell lime and it grew wheat to a weight of 64 lbs. per bushel; with the wheat I sowed one bushel of cloverseed and half a bushel of timothy seed per acre, and the next year cut 2½ tons, and the second year 3 tons of hay per acre. I have found it of great advantage in potato culture; the potatoes do not rot in the ground, while neighboring unlimed ones *all* do. They are mealy and fine, and do not rot after gathering, and have been free of rot in dry, wet and average seasons. I think it destroys the fungus or insect, if either be the cause of rot.

Bone dust I have used and find it most valuable, and advise its use, especially on soils long cultivated, destitute of phosphate of lime; it is the most efficacious manure that can be used on an exhausted soil, but will do better on dry calcareous soil than on such as contain alumina. It should be mixed with earth to ferment before spreading. There should be used from 12 to 20 bushels to the acre. It seems best on turnips. In compost, it is valuable, as it yields phosphates largely. It is said that in England, where on lands it had been applied 20 years before, its effect could be seen to a yard. I trust the exportation of bones from our country will soon cease.

I have used guano successfully and unsuccessfully. Mixed with earth and applied to plants in close contact it was injurious; applied in weak solution to grass land and green house plants its effect was wonderful. My experience shows that *its method* of use will determine *its value*. In composts I have found it very effective.

Night soil is one of the most valuable manures. In this country, as well as in England, great prejudice prevails against its use in agriculture or gardening. For ages it has been used in Asia and particularly in China. In France, in Belgium, Bohemia, Saxony, all the German confederacy, and Sweden its destruction or waste is prohibited by law. In England and America it is thrown into the rivers to befoul them, and the fish which devour it are eaten instead of vegetables grown by it. As manure, 6 loads of it have been found to produce 650 bushels per acre of potatoes, while, on the same ground. 120 loads of horse manure yielded only 480 bushels.

In conclusion, I have to remark that the main stay of the farmer is his barnyard manure. Yet this varies in quality, according to the material of which it is made, and the manner of making. Thus the droppings of cattle fed on straw and turnips are far less valuable than those of cattle fed on hay and oil cake; and it is economy to feed hay and oil cake rather than straw and turnips. So in manuring; that which is leached by rains and volatilized by the sun is less valuable than the unleached and unsunned. But this is too extensive a subject to take up, and is so well understood by good farmers, that it is unnecessary to say more on the subject.

Mr. Pell made some further remarks on methods of cultivation, which we will report in our next.

After some business relating to the Society was transacted, the meeting adjourned.

## ANNUAL MEETING OF NEW YORK STATE AGRICULTURAL SOCIETY.

The Society met in the Capitol on the 21st of January.

The meeting was called to order by the President, B. P. Johnson, Esq.

The Recording Secretary, L. Tucker, read the list of members present.

The Treasurer, T. Hillhouse, read the report of the Committee appointed to examine the Treasurer's accounts. The accounts were reported satisfactory.

The Treasurer then read his report. From this it appears that the

| | | |
|---|---|---|
| Receipts of the year 1845, including balance on hand Jan. 1, 1845, were … | | $6,322 27 |
| Disbursements | 3,776 06 | |
| Invested on bond and mortgage | 2,000 00 | 5,776 06 |
| Balance on hand Jan. 1, 1846 | | $546 21 |

Mr. Geddes reported, that the Committee on Corn had awarded the premium on corn to Geo. Vail, of Troy, 91 bushels to the acre.

C. N. Bement, chairman, reported the awards of premiums made by the Committee on root crops.

Mr. Fuller, of Onondaga Co., moved that a committee of three from each Senatorial District, be appointed to recommend suitable persons as officers of the Society for the year 1846, and to report to the Executive Committee a proper place at which the Annual Show of the Society should be held; the motion prevailed.

Mr. Cheever, of Albany Co., moved that the committee of nomination be chosen by the delegates present from each Senatorial District, each delegation to select three of its members; the motion prevailed.

The delegations then retired, and on coming in reported the committee.

L. F. Allen offered a resolution, proposing a committee to investigate and report to the Society all information that can be obtained in reference to the dairies of this State. The resolution was adopted, and L. F. Allen, D. Lee, E. Comstock, Z. Pratt, and Wm. Walbridge, were appointed the committee.

The Society adjourned to meet at 6½ o'clock, P. M.

On convening at evening, Mr. Denniston, of the nominating committee, reported the following names, viz.:—

President, J. M. Sherwood; Vice Presidents, R. H. Ludlow, A. Booker, E. P. Prentice, T. I. Marvin, P. Jones, J. M. Speed, H. S. Randall, and Lewis F. Allen; Recording Secretary, Luther Tucker; Corresponding Secretary, Joel B. Nott; Treasurer, T. Hillhouse; Executive Committee, A. Concklin, Geo. Vail, Aml Doubleday, A. Stevens, and J. Miller.

Mr. Hillhouse declined, and J. M. D. McIntire was substituted, and the nominees were elected by the Society.

The committee recommended Auburn as the place for the next Show.

The Society then adjourned to the next day.

On the 22d, the Society met and heard reports from its officers and various committees, and adjourned to evening, when the President delivered the annual address. The new officers were then installed, and after the passage of some resolutions and some interesting discussion, the Society adjourned.

On the 22d, the Executive Committee met, and adopted the recommendation of the nominating committee, and selected Auburn as the place of the Show for this year. Mr. Tucker resigned the duties of his office, and they were devolved on the Corresponding Secretary.

## PERUVIAN GUANO.

I have seen in the Baltimore American, National Intelligencer, and other southern papers, an advertisement, offering for sale the cargo of *Guano* imported into New York in the Caroline Amelia, "*as Peruvian Guano, from the Chincha Islands*;" and that the farmers of the United States may not be imposed upon in the purchase of this manure, I beg leave to avail myself of your journal to enlighten them on this subject.

The Caroline Amelia was loaded *under a license from the Chilian Government*, at a distance of nearly a thousand miles from the Chincha Islands, and her cargo is of a quality *far inferior* to that obtained in Peru. Indeed, much of that sent to England from the same place has been found to be entirely worthless, from exposure to the rain where deposited; and from being strongly impregnated with salt, from the beating of the surf against the low rocks where it is gathered. Another vessel, the Wodan, under the Danish flag, was also loaded at the same place for the United States, and the same imposition may be attempted with her cargo.

The only genuine *Peruvian Guano* sent to this country, is shipped at the Chincha Islands, by the Peruvian Guano Company, under authority of the Peruvian Government, and all to my consignment. It will be received by me at New York, or by Mr. Sam'l K. George, at Baltimore. Any other offered as *Peruvian, is spurious*, and our farmers must be cautious to ascertain the origin of what they buy to avoid imposition.

The only two cargoes of Peruvian Guano now in the United States are those of the *Orpheus* and *Coquimbo*. The ships *Regulus*, *Troy*, and *Mississippi*, are expected to arrive with further supplies, here or at Baltimore, in the course of the spring.

Enclosed I send you the analysis of a sample of this Chilian Guano by Dr. Chilton of this city:

| | | |
|---|---|---|
| Phosphate of Lime | | 52.65 |
| Carbonate of Lime | | 8.12 |
| Silica<br>Alumina, &c. | Stony matter | 16.22 |
| Chloride of Sodium | | 5.36 |
| Sulphate of Soda | | 4.41 |
| Sulphate of Ammonia,<br>Phosphate of Ammonia,<br>Muriate of Ammonia,<br>Urate of Ammonia, | | 4.16 |
| Undecomposed Organic Matter | | 3.88 |
| Water and loss | | 5.20 |
| | | 100. |

Edwin Bartlett.

*New York, Jan'y* 13, 1846.

# Ladies' Department.

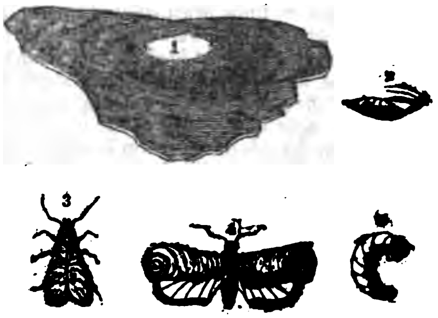
## INSECTS.—No. 1.

SINCE some of the pages of your periodical have been devoted to the ladies, it has occurred to me, that extracts from an unpublished journal of an Old Lady, which has lately fallen into my possession, might frequently afford useful hints to farmers' wives, and occasionally throw light on some of those subjects that are beginning to attract the attention of practical farmers, as well as scientific men. The writer of this Journal appears to have spent a long life in the country, devoting herself to homely pursuits and useful studies—and taking for her motto—"Whatever is worth *doing*, is worth doing *well*." She pretends to little scientific information; but appears devotedly fond of the contemplation of the operations of nature, as presented to her view—whether it be in the changing clouds and skies—the still forest—the useful field and garden—or in the homely kitchen and its fireside combinations. But, above all, the study of the insect world appears to have been her peculiar delight, and to this she seems to have devoted many of her leisure hours, carefully noting down any interesting fact that has fallen under her notice. To this portion of her journal I will now call the attention of my country-women, hoping that the observations of this good old lady may not only amuse and interest, but induce some to follow her example, and find in the book of nature their chief happiness.

Feb. 1st.—A fine cold day—must go and see what my friends the woodpeckers are about, as there are an unusual number employed among the fruit trees—amply paid for my trouble, and have gained subjects for thought to amuse me for a month. Having noticed that the woodpeckers were most busily engaged on the oldest fruit trees and those that had the roughest bark, I chose a large old apple tree for my observations, and with my pruning knife, which I always carry with me, carefully raised the loose bark. For some time I could detect nothing that could interest either me or a woodpecker; but at length I discovered a little dark substance resembling coarse mud-colored silk, which appeared to glue a piece of loose bark to the tree. On removing it carefully, I found the coarse, dark cover, beautifully lined with soft white silk, forming a bed and cover to a little reddish brown worm, which appeared fast asleep, and carefully cradled for the winter. Pursuing my search further, I found many more; but some had undergone a change, and become what the entomologists call a chrysalis. (See 5, Fig. 14.) Here, then, was a reason for the visit from the woodpeckers, who had found out the secret before me.

But who is the little worm, and to what family does he belong? Of this the woodpeckers know nothing, and the worm is fast asleep. I must try and find out. On carefully examining my little prisoner, I find a strong resemblance to a troublesome family that has annoyed me all summer, commonly called apple worm, some of whom are still lingering in the cores of my winter store apples. I must look further into this matter, and see what are his future intentions.

12th.—Having secured my little prisoner, the apple worm, which I captured on the 1st, in a box, and placed in a warm room beside one containing several apples with worms in them, I find they have anticipated spring, and some have gratified my curiosity by appearing in their spring dress. They are now beautiful little dark brown moths, and, as I suspected, all of the same family, deserving to be better known than I believe them to be among the farmers, though well known to the entomologists as the *Carpocapsa pononana*, one of the family of the *Tortrix*. I will therefore refer to my previous observations on this family, and describe them at length; and that I may be better acquainted with them in future, I will sketch their portraits in their various disguises as they now lie before me.



APPLE MOTH.—FIG. 14.

1, Cocoon or silk covering, on the bark; 2, chrysalis; 3, perfect moth, at rest; 4, moth on the wing; 5, worm.

*Moth.*—The upper wings of this little moth (4) are of a light grey color, beautifully pencilled and mottled with dark brown dots and waving lines; the back margin is ornamented with a large reddish brown spot, surrounded with a border of reddish brown gold, edged with a sparkling brown fringe. The under wings are of a light brownish red, shaded into a light dusky yellow, with a sparkling lustre, and bordered by a fringe. The body is light brownish grey, pencilled with dark brown lines, like the upper wings. The chrysalis (2) is a bright reddish brown; the cocoon (1), a dark brown flattened oval silk ball, closely woven to, and surrounded by, the bark.

In the months of May and June, great numbers of these little moths may be seen at rest on the trees or concealed among the grass during the day; but as evening approaches, they begin their work of destruction, by depositing their eggs on the young fruit, always choosing the firmest and best as food for the future grubs. The eggs are usually deposited near the blossom or hollow of the apple, near the stalk. In a few days the eggs are hatched, and the little worms enter the young fruit, where they feed for three or four weeks; they then leave the fruit whether it has fallen or not from the tree, and find for themselves a home, usually under the bark of the tree, where they spin their beautifully and curiously contrived covering, to shelter themselves during their helpless state. In a few days the little grub changes first to a chrysalis, then to a moth, and comes out to deposit her eggs on the remaining fruit, which will be destroyed in proportion to the quantity of wormy fruit, which contained the first generation, that had been suffered to remain on the ground or tree. The grubs of the second generation, which do not leave the fruit until September, either perish, or remain in the chrysalis state under the bark, until spring recalls them to life and mischief.

But though thus beautifully and curiously guarded from observation in their helpless state, they have hosts of enemies, whose prying eyes discover them through their dark and close disguise. The woodpecker and his troop of feathered friends the sparrows, sapsuckers and wrens, with their restless wings and hungry beaks prying into every dark cranny, learn early from their unerring teacher, Instinct, that good and wholesome food is to be found beneath the uninviting dirt-colored mantle that the poor worm had vainly thought to shelter itself under. Then a little wasp-shaped insect, called *ichneuman*, knows right well from the same teacher, that there lies the best food for her young ones —so with a long horsehair-like appendage which she carries, she penetrates the tough silk cover, and deposits her eggs in the body of the worm so ingeniously, that the life of the worm is not endangered until the *ichneuman*-grub has gained maturity, when the apple worm dies, and the *ichneuman* commences its life of useful destruction. Nor are these all; the little despised and grim-looking crab-like spider, found under the bark of trees and in little dark crannies, is always on the watch for the apple moth as soon as it makes its appearance in the spring—and many hundreds fall victims to these much-abused, but most useful little creatures.

Old Lady.

## COUNTRY SCHOOLS.

I respectfully request the favor of a corner in your Ladies' Department, for the purpose of pointing out what seems to me to be a very erroneous conclusion of your correspondent, E. S., in the December No. of your last volume, in reference to the education of farmers' children. After adverting to the "melancholy fact, that most of our country schools are miserably deficient in teachers capable of imparting a knowledge of anything above what the children of the poorest day-laborer should be familiar with," she recommends as the best substitute for maternal instruction, the union of two or more neighboring families in the employment of a governess of suitable qualifications—intellectual and moral—and proceeds to intimate that young ladies possessed of these qualifications, and "likely to be dependent on their own exertions, are at the present time educated with the express view of their becoming teachers," and that "consequently, there will be less difficulty in procuring persons competent to the task assigned them." Now permit me to ask "E. S." whether the object she has in view—the proper education of the children of farmers and others residing in our rural districts, would not be much better and more permanently promoted, by increasing the number both of young gentlemen and ladies now obtaining in the Normal schools in our own and the eastern States, those qualifications which shall fit them to become competent teachers, and when thus qualified placing them with an adequate compensation in charge of the district schools?

If "E. S." will visit the noble institution now in successful operation in this city exclusively devoted to this object, I am very sure she would not desire to restrict the benefits which this class of teachers are competent to bestow on a few families only. I venture to assure her that the time is not far distant when it will be in the power of every school district in the State, to avail itself of th services of teachers thoroughly impressed with th responsible duties of their station—intellectuall and morally prepared for their discharge—and capable of training the expanding minds of our youth in every department of science, from the lowest to the highest.

There is one more consideration to which I deem it proper to advert in this connection, and that is this: Neither the States of Massachusetts nor New York would probably feel disposed to incur the heavy expense of supporting institutions of this kind, so beneficial in their tendency, and useful in their results, if those for whose education they have thus liberally provided, were to limit their field of labor in the cause of education to some two or three families in each district, who could best afford to compensate them for their superior attainments. The irresistible effect of such a measure would be effectually to destroy the district school, not only by withdrawing from its support those most able to encourage and sustain it, but by preventing the employment of teachers who alone are capable of doing adequate justice to their high profession.

If, in addition to the State Normal School, at Albany, a similar one could be located in the western portion of the State, embracing within its design a practical course of instruction in agricultural science, the results could not fail, in my judgment, to prove beneficial. But I fear I am exceeding the proper province of a lady, in suggesting such an extension of our system of public education, and I therefore leave this point to the "lords paramount," contenting myself with an earnest protest against the plan of monopolizing the best teachers in a few wealthy families, at the hazard of perpetuating ignorance in the residue. "E. S." will, I am confident, on more mature deliberation, coincide in this view of the subject.

S. H. R.

*Albany, N. Y.*

To protect tender Plants and ever-blooming Roses in Winter.—Bury well rotted old manure over the roots, but not in contact with the stem; cover the ground about the plant with stones, to keep in the heat, and stick cedar bushes about them, to protect the tender stems. This is a much better method than tying them up with straw, or boxing with leaves, as in either case they are often injured by damp and heat.

To wash Flannels.—Make two tubs of strong soapsuds, and wash the pieces while it is as hot as the hands can bear it. Rinse in hot, soft water, wring lightly and shake well, and hang where they will dry quickly. Do one piece at a time; for if allowed to become cold while wet, and then again hot, the flannel will inevitably shrink and become harsh. When nearly dry, fold them very smooth, and press with a hot iron.

# Boys' Department.

## POULTRY FEEDING FOUNTAINS.

OUR young readers will recollect that we gave them a cut (fig. 7) of one of these fountains in our last No., and promised them a description of it. Here it is:

It can be made to contain any quantity of grain required, and none wasted. When once filled it requires no more trouble, as the grain falls into the receiver below as the fowls pick it away; and the covers on that which are opened by the perches (the principles of which we do not understand), and the cover on the top, protect the grain from rain, so that the fowls always get it quite dry; and as nothing less than the weight of a hen on the perch can lift the cover on the lower receiver, rats and mice (which are very troublesome when grain is fed in the ordinary way) are excluded. It is astonishing, too, with what facility the fowls learn to leap upon the perches, and so open the cover of the receiver, which presents the grain to their view and within their reach. On their leaving the porch or platform, the door, either by a spring or weight, closes at once.

From that figure Mr. Bement says he had one constructed, of which the following cuts are a fair representation.

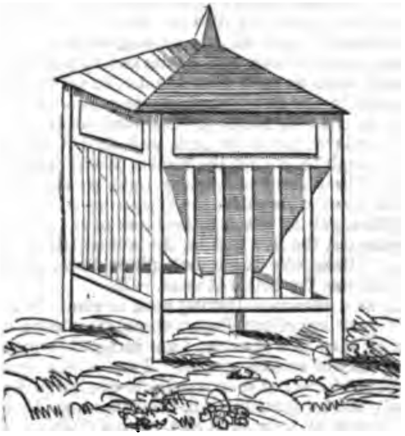


FIG. 15.

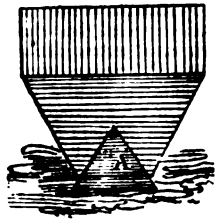


FIG. 16.

This feeding hopper, as may be seen in fig. 15, is four square, two feet each way—posts eighteen inches long and two inches square. The upper section of the box is six inches deep, and the sides are morticed into or nailed to the posts. From the bottom of this square the slanting part or tunnel reaches to within half an inch of the floor, which should be six inches from the ground; the tunnel tapers from two to one foot; and in order to bring the grain within reach of the fowls, a cone (fig. 16, A, is a section) is placed in the centre, as much smaller than the hopper as to leave half an inch space all around, which conducts the grain to the edge, where, as the fowls pick the grain away, more will fall, and keep a constant supply as long as any is left in the hopper. The slats on the sides prevent the fowls from getting in or crowding one another. This fountain will hold two bushels or more of grain, and protects it from wet and in a measure from rats. It occupies but little room, and from sixteen to twenty fowls can feed at the same time.

To protect the grain more effectually from rats and mice, we would suggest that the posts be made some two feet longer, and a platform of boards about one foot wide, placed round and fitted close up to the bottom, so that mice cannot climb up the posts and get in. This platform will be necessary for them to stand on when eating.—*Amer. Poult. Companion.*

## THE MEMORY.

THE head has been often compared to a storehouse, and a very fit emblem it is. A storehouse when first built is empty, and ready to receive all kinds of goods, some precious, and some totally worthless; and very often it stands without much of anything in it, in which case it is worth little or nothing to the owner; at other times it may be so lumbered up with different kinds of goods as to render it difficult to get at what you want—there is no order or arrangement within the walls. Some there are whose heads seem to be like an old garret, full of everything but what is useful; how important then for a boy when young to store his head with that which is useful, by disciplining his thoughts, and let nothing rest in his brain but what is calculated to be of future use. Some boys have a habit of forgetting everything they are told to do, and when asked, will say—"Oh, I forgot it." If you send them to turn out the horses, they will put them into the cow pasture; if the cows are to be turned out, they will surely be turned into the horse pasture; the pigs they will put into the poultry yard, to eat up all the chickens, ducklings, and goslings; and the sheep they will turn into the street to be killed by travelling dogs. I once knew a boy sent to yoke up a pair of cattle, put the yoke on *under* instead of *over* the necks of the cattle, and then wondered they could not draw well; sent to harrow a field of grain, and he was found going over it with the teeth *up* instead of down, and thus was the day's work of himself and team totally lost, and the harrow greatly injured. All this was owing to carelessness and forgetfulness entirely—habits which are extremely injurious to the characters of too many boys whom I know in my neighborhood.

Do one thing at a time, and do that properly and well. Be quick, but never in a hurry. Always pay the strictest attention to orders, and execute them to the letter, unless something unforeseen should arise, making it improper to do so, and which can be satisfactorily explained to your employer. Be kind and obliging in all your actions, and strictly adhere to the truth in all your conversation, and you will be beloved and respected by all. This I have known from long experience, and am therefore anxious you should also know it.

A FATHER.

## FOREIGN AGRICULTURAL NEWS.

By the steam-ship Hibernia, we are in receipt of our foreign journals to January 4th.

MARKETS.—*Ashes* a slight improvement. *Cotton* has advanced ⅛d. per lb. The stock at Liverpool, on the 1st of January, was 1,055,270 bales, against 903.107, same time last year. *Flour* no change in prices. *Provisions* remain the same as per our last, and meet with a ready sale. *Guano* is quite firm, and a large trade anticipated in it the coming year. *Naval Stores* little doing. *Rice* dull. *Tallow* the same. *Tobacco* firm. *Wool* in fair request, and an increased market anticipated for it.

*Money.*—The rate of interest for first-rate paper was from 3½ to 5 per cent., which is an advance.

*The Potato Crop.*—The alarm respecting the deficiency in this crop is on the decrease; there seems to be no great distress for provisions in Ireland.

*The Corn Laws.*—The Peel ministry being reinstated in power, there is little prospect of the corn laws being abolished at present. It is supposed that a fixed duty of about ten shillings per quarter will finally be settled upon.

*Smithfield Show of Fat Cattle.*—This came off in December, and was well attended. A Hereford ox took the first prize of the gold medal.

*The Income of the English Agricultural Society* the past year reached the large amount of £9,291, over $46,000! It has 6,733 members, and is adding to them and its funds every year; thus doing an incalculable amount of good to the farming interest.

*To Sweeten Butter.*—By adding 2½ drachms of carbonate of soda to 3 lbs. of either fresh or salt butter, possessing a disagreeable flavor, renders it perfectly sweet. Soda produces the same results when added to other culinary greases, as dripping, lard, &c.—*Far. Herald.*

*Vines in Dwelling-houses.*—A singular instance of the growth of a vine may be seen at the Angel Inn, Halesworth, Suffolk; a large portion is trained in the front of the house and stables, but a branch 23 feet in length is conveyed through the windows of a sitting-room, crossing the ceiling to the centre of the house, where it is trained to a lofty skylight, producing fruit in abundance. Might not some of our mechanics and others enjoy this delicious fruit, by introducing the vine in their work-shops in a similar manner?—*Gar. Chron.*

*On the Choice of a Variety of Oat for Cultivation.*—Strongly suspecting that the real value of different varieties of oat was unknown, and that weight by bushel was even less applicable to this grain than to wheat, I procured samples of nine sorts, carefully selected by Messrs. Lawson, of Edinburgh. I have not had them compared chemically; I leave that to those great and wealthy bodies, associated for the ostensible purpose of conferring benefits on the farmer. I have followed a simple mechanical process, which any one may follow. The weight of each sort per bushel having been ascertained, the following table was constructed according to the results:

| *Weight per bushel of* | lbs. |
|---|---|
| Siberian Oat | 45 |
| Sandy | 52½ |
| Kildrummie | 42 |
| Early Angus | 42 |
| Hopetoun | 41 |
| Potato | 41½ |
| Early Dyock | 40½ |
| Late Angus | 40½ |
| Black Tartarian | 39 |

The useful part of the oat being the kernel, and it being probable that the proportion of the weight of the husk to that of the kernel might vary so much as to render the weight per bushel a deception, 100 parts by weight of each sort were taken, and the husk and kernel carefully separated. The following table shows the result:

*In 100 parts by weight.*

| | Husk. | Kernel. |
|---|---|---|
| Sandy Oat | 21 | 79 |
| Early Angus | 21 | 79 |
| Late ditto | 21½ | 78½ |
| Potato | 22 | 78 |
| Early Dyock | 25 | 75 |
| Black Tartarian | 25 | 75 |
| Hopetoun | 26 | 74 |
| Kildrummie | 28 | 72 |
| Siberian | 31 | 69 |

It is curious that the oat at the head of the first table should be at the bottom of the second. There may be as great difference among oats as among wheats in regard to their nutritive qualities, and until this shall have been ascertained by the chemist, we shall not know the real comparative values. In the meantime, there need be no hesitation in preferring the sandy oat over all others, as it is very early and very productive in grain and straw.—*Ibid.*

*Horticultural Expedition to China.*—Advices from Mr. Fortune, dated Shanghae, August 16, mention that he had returned from the river Min, and was busily engaged in gathering together his collections of plants left at Ningpo, Chusan, and other places, preparatory to his return to England, where he is expected in April or May next. His plants are described by him as being extremely valuable; and he had decided upon bringing the whole of them home under his own superintendence. He had been in the black tea country, and had witnessed the process of preparing the leaves; he had been seriously ill with fever, from which he was recovered; and on his passage from the Min to Chusan, he had been twice attacked by pirates, who, however, were on each occasion driven off by himself, unassisted by his cowardly Chinese crew.—*Ib.*

*How to Preserve Rhubarb.*—My method is to take a quart bottle with a wide neck, and to cut the stalks small enough to go into the bottle; I add brayed loaf sugar and tie a piece of bladder tight round the neck, I put as much water into the copper as will immerse the bottles, get the water to boil just over the bladder, then rake out the fire, and let the bottles remain in till cooled; I then take them out, place them on a dry shelf, and use the bottle at once.—*Ib.*

*Soap as a Manure.*—Having seen in some late number of your excellent Paper some discussion on the value of soap as a manure, I am inclined to give you my experience in this matter. I am a silk dyer, and use about 15 cwt. of soap weekly to discharge the gum and oily matter from the silk before dyeing. I also use about 1 cwt. of soda to 3 cwt. of soap, which I presume unites with the oily matter of the silk, forming a species of soap. The result is, that I produce from 4000 to 6000 gallons of strong soap suds per week; and having a small farm, I have latterly applied the whole of this to my land, and its effect is most extraordinary. My experience in its use has been only one season, and I cannot, therefore, give any comparative results; but I consider it more powerful than any manure that I am acquainted with. If any of your readers will do me the honor to come and see my land next spring, when vegetation begins to move, they will have ample evidence of the value of soap as a manure; and if farmers were allowed the drawback of the duty on soap used as a manure, in the same way that we manufacturers are allowed it by the government, there is no doubt in my mind that soap would soon supersede the use of guano.—*Ag. Gaz.*

*Large Cabbages.*—Six cabbages of the flat-pole kind were recently raised by Mr. Toms, of Saltash, weighing 61, 59, 57, 56 54, 50=337 lbs.

## Editor's Table.

**Culturist.**—We are favored with the first No. of a new agricultural paper under the above title, published by Wm. J. A. Bradford, Baltimore, Md., at one dollar a year. It is 16 pages quarto, and very neatly got up. Mr. B. has our best wishes for his success; but why not carry his patronage to the old established American Farmer? There are no publications so poorly paid as the agricultural, and instead of starting new ones, would it not be better to get a stronger support to those already in existence? Independent of collateral business, we do not believe there is a purely agricultural paper in America that is more than paying expenses—and seven-eighths of them are not even doing that. We have placed the Culturist on our exchange list.

**The Mechanics' Mirror.**—This is a beautiful octavo monthly of 28 pages, edited by Robert McFarland, Esq., and published by John Tanner, Albany, N. Y., at one dollar a year. The matter in the first No. at hand, is highly valuable, not only for the mechanic, but for the general reading of families. The work is well arranged for popular favor, of which we hope it may find much, for its appearance certainly promises it to be highly deserving.

**Peruvian Corn.**—Edwin Bartlett, Esq., of this city, has kindly given us five barrels of Peruvian Corn, recently sent him from that country. It has the largest sized grains of any we ever saw before, and is quite a curiosity. There are two kinds: one called by the Peruvians, *maiz blanco* (white corn). This is the Chancay corn used for fattening pigs. It is a coarse, inferior article, but grows very rank and strong. The other kind, *maiz amarillo* (yellow corn), from Huacho, is large and fine, and is said to make the sweetest kind of bread. Mr. Bartlett informs us it is a great yielder. Any one wishing a quart or two of this corn for experiment, can have the same gratis, by calling at our warehouse, No. 187 Water Street. We are of opinion, it will do best south of the Potomac, as it is a southern corn.

**Solon Robinson, Esq.**—We regret to say, that just before this eminent friend of agriculture was ready to start on his agency for this paper, and our agricultural establishment, he was seized with a violent fever, which reduced him very low for a time. When he last wrote us he was convalescent, and our readers will see that he has made some happy efforts for their amusement and instruction in this No. of our paper. We trust he is on his way to New Orleans, by this time, via the Ohio and Mississippi rivers. Thence, if his health grows better, he will find his way through lower Alabama to Florida, and so north, as the spring advances, through Georgia, the Carolinas, &c. We are much obliged to our southern friends who have offered him so kindly a welcome, and shall request him to call upon them on his route hither.

**Western New York Agricultural School.**—Dr. Daniel Lee, of Buffalo, editor of the Genesee Farmer, has made arrangements with Gen. Rawson Harmon, to open an Agricultural School at the residence of the latter in Wheatland, Monroe County, N. Y., on the 1st of May next, to teach the science and practice of agriculture. The farm of Gen. Harmon contains 200 acres of improved land, which is under excellent cultivation in the various kinds of crops suitable to the climate. Dr. Lee thus speaks of their undertaking in his prospectus.

"Great pains will be taken to ascertain what animals furnish the most profitable *living machinery* for changing grass, grain, roots, straw, &c., into milk, butter, cheese, beef, pork, mutton, fat, and wool. To impart a thorough knowledge of the organic structure of all this machinery, and of the office or function performed by each organ, there will be minute dissections of all domestic animals. A museum, illustrative of the anatomy and physiology of all the living things which the farmer labors to produce, and keep in a healthy condition, will also be formed. Lectures will be given in these departments of natural science, and no pains will be spared to render their study both interesting and truly useful. Work in a chemical laboratory for the analysis of soils, manures, fertilizers, and all vegetable and animal substances, will form an important department in the school. Lectures will be given in this branch of science with the view to prepare teachers of academies, and common schools, to introduce the study of agricultural chemistry into these seminaries of learning. A suitable text book, and a cheap apparatus for the use of school teachers and private gentlemen, have long been in a course of preparation. Agricultural geology will also be taught. A full course of study and practice will occupy four years; during which, the pupil will be required to keep in his own handwriting a journal of his studies and progress, and an accurate debit and credit of all farm operations. He will be charged for his board and tuition, washing, &c., and credited at a fair price for whatever service he may render on the farm. But we cannot promise *work* and *pay* for all that may offer. The object of the proprietors of this school will be to turn the labor of young men to the best possible account, and to give them the full benefit of their skill and industry.

"The price of board, washing, lodging, lights, and fire wood, will be from $1.50 to $2.00 per week. Tuition from $8 to $12 per quarter. This will include instructions by Gen. H., as well as the editor's lecture fees."

From the well known characters of Gen. Harmon and Dr. Lee, we have no doubt that they will keep an excellent Agricultural School, and one highly deserving the patronage of the public. The pages of this periodical will bear witness to the zeal with which we have continually advocated them, and we are rejoiced to be able to announce that one is at length to be established in this State. We hope it may meet the patronage that it is sure to merit, and that it may be followed by others throughout the country. It is high time that farmers' sons were taught their business *scientifically* as well as *practically*. We are of opinion that, ten years hence, people will look back with perfect wonder that agricultural schools were not established at the first settlement of the country.

**The Present No. of the Agriculturist.**—It is not often that we praise our own paper, but we think the present No. contains several very able articles. We would especially point to that on "Hereford Cattle," and the one containing "Mr. Pell's Essay," read before the American Ag. Association the past month. Let no one be deterred from perusing them by their length; for they have been prepared after much study and thought on the subjects of which they treat. We do not intend to make our periodical a light ephemeral, but a work of instruction to be read and studied as a book.

**Acknowledgments.**—We are indebted for the Transactions of the Hampshire, Hampden, and Franklin Agricultural Society for 1845; for the Address before the Hartford County Agricultural Society by Hon. I. W. Stuart, together with the Transactions of the same for the past year; for the Brockville Recorder, C. W., containing an account of the Johnstown District Agricultural Show, in October last, which must have been a highly spirited affair.

**To Correspondents.**—J. D. Williamson, L, Persicus, A Subscriber, Solon Robinson, E. S., Benj. N. Huntington, and Henry Watson, are received.

# REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JANUARY 26, 1846.

| | | | | |
|---|---|---|---|---|
| ASHES, Pots, | per 100 lbs. | $3 87½ | to | $4 00 |
| Pearls, | do. | 4 12½ | " | 4 19 |
| BALE ROPE, | lb. | 5 | " | 7 |
| BARK, Quercitron, | ton, | 26 00 | " | 26 50 |
| BEANS, White, | bush. | 1 12 | " | 1 25 |
| BEESWAX, Am. Yellow, | lb. | 28 | " | 33 |
| BOLT ROPE, | do. | 12 | " | 13 |
| BONES, ground, | bush. | 40 | " | 55 |
| BRISTLES, American, | lb. | 25 | " | 65 |
| BUTTER, Table, | do. | 16 | " | 25 |
| Shipping, | do. | 9 | " | 13 |
| CANDLES, Mould, Tallow, | do. | 9 | " | 11 |
| Sperm, | do. | 25 | " | 38 |
| Stearine, | do. | 20 | " | 23 |
| CHEESE, | do. | 5 | " | 10 |
| COAL, Anthracite, | 2000 lbs. | 5 00 | " | 6 00 |
| CORDAGE, American, | lb. | 11 | " | 12 |
| COTTON, | do. | 6 | " | 10 |
| COTTON BAGGING, Amer. hemp, | yard, | 13 | " | 14 |
| Kentucky | do. | 12 | " | 13 |
| FEATHERS, | lb. | 26 | " | 34 |
| FLAX, American, | do. | 7 | " | 8 |
| FLOUR, Northern and Western, | bbl. | 5 50 | " | 5 87 |
| Fancy | do. | 6 50 | " | 6 87 |
| Southern, | do. | 5 50 | " | 5 87 |
| Richmond City Mills, | do. | 6 62 | " | 6 75 |
| Rye, | do. | 4 25 | " | 4 38 |
| GRAIN—Wheat, Western, | bush. | 1 20 | " | 1 30 |
| Southern | do. | 1 15 | " | 1 25 |
| Rye, | do. | 79 | " | 81 |
| Corn, Northern, | do. | 68 | " | 70 |
| Southern, | do. | 67 | " | 69 |
| Barley, | do. | 65 | " | 68 |
| Oats, Northern, | do. | 46 | " | 48 |
| Southern, | do. | 38 | " | 40 |
| GUANO | do. | 2 00 | " | 3 00 |
| HAY, in bales | 100 lbs. | 90 | " | 95 |
| HEMP, Russia, clean, | do. | 190 00 | " | 195 00 |
| American, water-rotted, | ton, | 105 00 | " | 185 00 |
| American, dew-rotted, | do. | 75 00 | " | 125 00 |
| HIDES, Dry Southern, | do. | 8 | " | 10 |
| HOPS, | lb. | 20 | " | 35 |
| HORNS, | 100. | 1 00 | " | 7 00 |
| LEAD | lb. | 4 50 | " | 4 56 |
| Sheet and bar | do | 4½ | " | 5¼ |
| MEAL, Corn, | bbl. | 3 75 | " | 4 00 |
| Corn, | hhd. | 17 50 | " | 18 00 |
| MOLASSES, New Orleans, | gal. | 23 | " | 29 |
| MUSTARD, American, | lb. | 16 | " | 31 |
| NAVAL STORES—Tar, | bbl. | 2 25 | " | 2 38 |
| Pitch, | do | 1 25 | " | 1 38 |
| Rosin | do. | 1 00 | " | 1 25 |
| Turpentine, | do. | 3 50 | " | 5 60 |
| Spirits Turpentine, Southern, | gal. | 63 | " | 75 |
| OIL, Linseed, American, | do. | 67 | " | 68 |
| Castor, | do. | 57 | " | 68 |
| Lard, | do. | 70 | " | 75 |
| OIL CAKE, | 100 lbs. | 1 75 | " | 1 88 |
| PEAS, Field, | bush. | 1 50 | " | 2 00 |
| PLASTER OF PARIS, | ton. | 2 50 | " | 2 63 |
| Ground, in bbls., | of 300 lbs. | 1 12 | " | 1 25 |
| PROVISIONS—Beef, Mess, | bbl. | 7 00 | " | 9 00 |
| Prime, | do. | 4 50 | " | 5 50 |
| Smoked, | lb. | 6 | " | 9 |
| Rounds, in pickle, | do. | 4 | " | 6 |
| Pork, Mess, | bbl. | 12 00 | " | 14 12 |
| Prime, | do. | 9 00 | " | 11 00 |
| Lard, | lb. | 7½ | " | 8½ |
| Bacon sides, Smoked, | do. | 3 | " | 4 |
| In pickle, | do. | 3 | " | 4 |
| Hams, Smoked, | do. | 6 | " | 10 |
| Pickled, | do. | 4 | " | 7 |
| Shoulders, Smoked, | do. | 5 | " | 6½ |
| Pickled, | do. | 4½ | " | 5 |
| RICE, | 100 lbs. | 4 10 | " | 5 52 |
| SALT, | sack, | 1 35 | " | 1 40 |
| Common, | bush. | 20 | " | 35 |
| SEEDS—Clover, | lb. | 10 | " | 13 |
| Timothy, | 7 bush. | 16 50 | " | 21 00 |
| Flax, rough, | do. | 10 00 | " | 10 50 |
| clean, | do. | 11 00 | " | 11 50 |
| SODA, Ash, cont'g 80 per cent. soda, | lb. | 2 | " | 3 |
| Sulphate Soda, ground, | do. | 1 | " | — |
| SUGAR, New Orleans, | do. | 5 | " | 8 |
| SUMAC, American, | ton, | 35 00 | " | 37 50 |
| TALLOW, | lb. | 7 | " | 8 |
| TOBACCO | do. | 3 | " | 7 |
| WHISKEY, American, | gal. | 24 | " | 25 |
| WOOLS, Saxony, | lb. | 35 | " | 50 |
| Merino, | do. | 30 | " | 35 |
| Half blood, | do. | 25 | " | 30 |
| Common | do | 20 | " | 28 |

## NEW YORK CATTLE MARKET—Jan. 26.

At Market, 1100 Beef Cattle (250 from Pennsylvania), 50 Cows and Calves, and 2000 Sheep and Lambs.

PRICES.—Beef Cattle—Last week the market exhibited considerable spirit, and buyers operated very freely. At the close of the week's business (Monday evening) not more than 200 remained unsold. We quote inferior to middling qualities, $4.50a$5.00; superior and prime ditto, $5.50a$6.00; sales of a few extra are reported at $7.

COWS AND CALVES.—The offerings for the last week were rather limited, but all at market were taken at prices ranging, according to quuility, from $15 to $30a32.

SHEEP AND LAMBS.—$1 50a$3.50 may be quoted as the extremes of prices. A small number left over.

HAY—In consequence of the recent snow storm preventing supplies reaching the city, the stock on hand is very small. A good article readily commands $1.12½ per cwt.

—

REMARKS.—*Ashes* firm. *Cotton* is steady, and no change in prices since the late news. Export since 1st September last, 457,930 bales; same time last year, 558,606; same time year before, 307,918. *Flour* is inactive. Stock on hand in this city about 235,000 barrels. Grain of all kind in moderate demand. Provisions firm, but little doing in them. Of other articles we have nothing worthy of record, this being the dullest month of the year for all kinds of business.

*Money* is tight, although there is no great distress for it.

*Stocks* slightly on the advance.

*The Weather* has been quite mild this month, with the exception of one heavy fall of snow, giving us a single week's sleighing.

TRANSACTIONS OF THE N. Y. STATE AG. SOCIETY.—Just as I was ready to issue the Extra spoken of page 38 of the last No. of this periodical, for reasons which will be stated hereafter, the publication of it was suspended for the present. Whether it will be issued or suppressed will depend entirely on circumstances. I am deeply obliged to my numerous friends for the interest they have taken in this matter, and can assure them one and all, that their kind expressions and encouragements are gratefully remembered. If it be found necessary to issue the Extra hereafter, they shall have due notice of it, and be supplied in any quantity for distribution. I promise them if it ever does see the light, with the additions I can now make to it, they will find it as rich and spicy an *expose* as ever appeared in the annals of agricultural literature. Still it is my wish that I may not be forced to say anything more. *All now rests with the adverse party. The developments of the last ten days fully content me.*

A. B. ALLEN.

TO AGRICULTURAL SOCIETIES.—With a view of aiding these Societies, and more extensively benefiting the farming community, it will be seen by reference to our advertised terms on the last page, that the publishers offer the Agriculturist at the very low price of FIFTY CENTS a year for the monthly numbers, and SEVENTY-FIVE CENTS per copy for bound volumes, when ordered for premiums or distribution among the members. With these liberal terms we hope henceforth to see our periodical in the hands of every farmer and planter in the country. We earnestly call upon our friends to exert themselves and spread the Agriculturist in every quarter. Agents will also be supplied on the most liberal terms. Address Saxton & Miles, 205 Broadway, New York.

CASTS OF THE PRIZE SHORT-HORN HEIFER.—We have ordered a few more of these superb casts fur our friends, and will supply such as apply soon. The price will be $4 each, delivered at our warehouse, or $5, boxed and shipped.

## IMPROVED STOCK FOR SALE.

The subscriber breeds on his farm for sale, the following animals of the choicest kind, viz.:—

Durham Cattle,
Devon do.
Cotswold Sheep
Southdown do.

His farm is large, and his herd and flocks numerous, which enables him to give an excellent choice. He is paying particular attention to the *milking* qualities of his cattle, both among Durhams and Devons. His sheep also are not only bred for fine forms and strong constitution, but heavy, thick fleeces of a good quality of wool. His residence is two-and-a-half miles from Buffalo, and is reached in ten minutes by railroad.

*Black Rock, Erie County, N.Y.* LEWIS F. ALLEN.

## COUNTRY RESIDENCE.

The house, garden, and outbuildings of the late Mr. William Cleveland, are offered for sale at a great bargain. The situation is a most desirable one for a person having children to educate, being within a few rods of an excellent high school, in the First Society of the town of Norwich, Conn. The house will accommodate a large family, or two small ones, having two kitchens, two gardens, &c., &c. The water is excellent both for drinking and washing. For particulars inquire of Henry Strong, Esq., or George D. Fuller, of Norwich, Conn., or

A. B. ALLEN, 187 Water Street, New York

## LAWRENCE'S TONGUELESS BUCKLE.

The Subscriber offers for sale the above patent buckle in any quantity, in all parts of the United States, except Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, and so much of New York as lies west of the Hudson river. The right to make the buckles for all Pennsylvania and New York belongs *solely* to the subscriber, and he will furnish buckles to all who own rights to sell and use in those two States; and they *must* procure them of the subscriber. Persons in those two States, who wish buckles, must furnish to the subscriber a certificate of the patentee, that they own the right to sell or use. For an account in full of this buckle, which is superior to all others, see the American Agriculturist for Sept., 1845. The buckle being without a tongue, the trace is not weakened by cutting holes in it; it is a compound lever, and holds the trace by pressure, and as the pressure condenses the trace it makes the trace stronger, just where the buckle having a tongue makes it weakest; and the greater the draught the greater the pressure of the buckle on the trace. For buckles apply to Cornell, Brothers, 269 Pearl Street, New York. THOS. HOLLIS.

## GENUINE EAGLE PLOWS.

The subscriber is sole Agent in this city for these celebrated plows, and any one else pretending to keep them has only a miserable imitation; the public, therefore, are cautioned to be on their guard against deception. The following brief abstract from the circular of the manufacturers, Messrs. Ruggles, Nourse & Mason, will give some idea of the public estimation of their merits.

In each year, 1842 and 1843, the Agricultural Society of Essex County, Mass., offered premiums for the best plows, and instituted full investigation and trials, which resulted each year, in awarding to Ruggles, Nourse & Mason, the highest premium. The judging Committee for 1843, in their printed Report, say, "our attention was called to the quality of the castings on the plows of Ruggles & Co., their finish and durability. Their appearance is certainly more perfect than anything we have elsewhere seen. The process of chilling the point, the entire edge of the share and flange or base of the landside, gives a permanence and durability to the work that renders it of a decidedly superior character," "and we think there is no hazard in saying, that the value of the parts thus made, is more than doubled by the process."

The following Table shows the number of premiums awarded to competitors contending for the prizes before the several different societies named, and the number awarded to those who used plows made by Ruggles, Nourse, & Mason.

| *Name of Society.* | *Year.* | *No. of prem's offered.* | *No. of premiums awarded as above.* |
|---|---|---|---|
| Essex County, Mass., | 1843 | 10 premiums, | 9 premiums, |
| do do do | 1844 | 8 do | 6 do |
| do do do | 1845 | 11 do | 11 do |
| Middlesex do do | 1843 | 8 do | 5 do |
| do do do | 1844 | 8 do | 5 do |
| do do do | 1845 | 8 do | 6 do |
| Wor'ster do do | 1840 | 9 do | 9 do |
| do do do | 1841 | 9 do | 9 do |
| do do do | 1842 | 9 do | 9 do |
| do do do | 1843 | 12 do | 12 do |
| do do do | 1844 | 11 do | 7 do |
| do do do | 1845 | 10 do | 8 do |
| Plymouth do do | 1844 | 6 do | 6 do |
| Bristol do do | 1845 | 11 do | 7 do |
| Hampden do do | 1844 | 3 do | 2 do |
| do do do | 1845 | 6 do | 3 do |
| Berkshire do do | 1845 | 8 do | 7 do |
| Barnstable do | 1845 | 4 do | 3 do |
| Hartford do Conn., | 1845 | 3 do | 3 do |
| Windham do Vt., | 1845 | the highest, | the highest, |
| Dutchess do N.Y., | 1845 | 4 do | 2 do |

It is but just to remark that the competition was as great between the different plow-makers as between the plowmen; and, in most instances, noted, the plows above-named were strongly contested by Prouty & Mears' (so called) "Centre Draught," Martin's imitation of our "Eagle" plows, and that in *every case*, the first premiums were awarded to plowmen, who performed their work with plows made by Ruggles, Nourse & Mason.

A. B. ALLEN, 187 Water Street, N. Y.

## DAVISON'S PATENT PROCESS FOR CURING MEAT.

The undersigned is authorized by the patentees to sell patents for the using and sale of Davison's Apparatus for Curing Meats; and preserving timber; and also for the sale of rights for States. The nature of the apparatus may be learned from the article page 28 in this volume of the Agriculturist. By this process, all kinds of meat can be perfectly cured in twelve hours, and in warm weather as well as cold. It leaves all the juices in the meat, and of course it makes a better article; bacon cured in it may be put to smoke in two days. It is just such an article as every planter in the South should have. Application for rights and for single machines may be made to the subscriber. The price of the machines is from $75 to $300, according to size.

A. B. ALLEN, 187 Water Street, N.Y.

## PERUVIAN GUANO AT REDUCED PRICES.

The prices at New York and Baltimore will be uniform, and as follows;

Fixed price *two-and-a-half cents* per pound; from which the following discounts will be made.

For lots of over 2 tons...... 10 per cent. or 2¼ cts. per lb.
" 5 tons...... 15 " 2⅛ do.
" 10 tons...... 20 " 2 do.

and a still further discount on larger parcels. The *discounts* at other places than New York and Baltimore, will be 5 per cent. less than the above, to cover extra charges of transportation.

Caution.—This is the only parcel of GENUINE PERUVIAN Guano now in this country, and may be had of the following persons:

SAML. K. GEORGE, Baltimore.
W. WOODBRIDGE, Savannah.
G. CLEEMANN, Philadelphia.
SECCOMB, BARTLETT & Co., Boston.
A. B. ALLEN, New York.
THOMPSON & CO., Brooklyn.
Agents of the Undersigned.

EDWIN BARTLETT.
Agent of the Peruvian Guano Company.
*No. 42 South Street, New York, Jan.*, 1846.

## SMITH'S PATENT SEPARATING CORN SHELLER.

*For which was awarded by the American Institute, New York, a Silver Medal.*

From recent and extended operations in the trials of these machines at the South, as well as the decisions of scientific and reputable individuals from various and remote parts, the proprietors are now in possession of the most conclusive evidence that this machine not only stands unrivalled, but that its arrangement will ever remain the climax of improvement in Corn Shellers. In the further support of which, the following additional facts are respectfully submitted, viz.:—Its structure is simple and compact; of strong and durable materials; is easy of transportation; safe in its operation against accident; is adapted to all the various kinds of corn, whether damp or dry; receives the ears promiscuously from the shovel, basket, or crib; breaks neither the corn nor the cobs; is readily attached to any horse or other power (being simply driven by belt or rope); operates in the double capacity of sheller and separater, doing its work perfectly clean, and at the rate of from one hundred to one hundred and fifty bushels per hour.

In the manufacture of these machines, the parties concerned have spared neither pains nor expense in the establishment of that system which would produce an article of the greatest utility, accompanied with least expense. The machine in its present and improved style is respectfully submitted as evidence of success; and the proprietors only ask of the public a careful investigation, and they will cheerfully abide the result.

In regard to a fixed and uniform price, on which there has been no settled arrangement, the proprietors now have the satisfaction to state that the mode of manufacture has become firmly established, and the price per machine will uniformly be Fifty Dollars.

R. N. SMITH, Patentee.

Samuel Hanna, proprietor for the States of New York and New Jersey, and general agent for the Atlantic States.

The subscriber having become sole manufacturer of the above machine, is now prepared to supply orders, and will forward at the established price. Apply to

Samuel Hanna, Valatia, Kinderhook, N. Y.
A. B. Allen, Agent, 187 Water Street, N. Y.
T. B. Wheeler, Travelling Agent for the Southern States.

## FASTOLFF RASPBERRY.

The Subscriber has just received a fresh supply of the above valuable Raspberry, esteemed in England superior to all other varieties. The fruit is very large, of rich flavor, and bears abundantly. They are ready for delivery as follows:

Package containing 25 canes, $5. Containing 12 canes, $3.
Single canes, 30 cents. These are warranted true to name.

Also for sale, a choice collection of green-house and stove plants.

Orders addressed to the undersigned will receive attention, and from unknown applicants a remittance or satisfactory reference is required. JACOB R. VALK.

Horticultural Gardens, Flushing, L. I., N.Y., January 1, 1846.

## A SUPERIOR STALLION.

A thorough-bred stallion for sale, of a fashionable pedigree; five years old; of a blood bay; black legs, mane, and tail, and without white. He stands 15¾ hands high, and will weigh 1,100 lbs. He has won several races, and is a *superb trotter*, going level in his pace. He is perfectly sound; kind in temper; possesses great style, and would have made a capital roadster. He has two crosses in him, of the famous imported Messenger, and may be depended on to get first-rate roadsters. His price is $400, which is extremely low for him. He would have brought $1,200 easily three years ago, but his owner having no farther use for him is desirous of selling.

Also for sale a road stallion 16 hands high, and four years old, of a bay color and fine style. Price $400. Apply to

A. B. ALLEN, 187 Water Street.

## LINNÆAN BOTANIC GARDEN AND NURSERY,

(LATE OF WILLIAM PRINCE, *Deceased*,)

*FLUSHING, LONG ISLAND, NEAR NEW YORK.*

The New Proprietors of this ancient and celebrated Nursery, known as PRINCE'S, and exclusively designated by the above title for nearly fifty years, offer for sale a more extensive variety of Fruit and Ornamental Trees, Shrubs, Vines, Plants, &c., than can be found in any other nursery in the United States, and the genuineness of which may be depended upon; and they will unremittingly endeavor to merit the confidence and patronage of the public, by integrity and liberality in dealing, and moderation in charges.

Descriptive Catalogues, with directions for Planting and Culture, furnished *gratis*, on application POST-PAID, and orders promptly executed. WINTER & CO., Proprietors.

Flushing, L. I., Feb., 1846.

## CHEAP PLOWS FOR THE SOUTH.

These plows are made in a far superior manner to any of the same kind ever sent from this market. The woods are of well selected white oak, and got out by Patent Machinery, and are all exactly alike, so that if one part wears out, or gets broken, it can be instantly replaced by a duplicate. It is the same also with the iron parts. The whole material of these plows is warranted of a superior kind.

| | |
|---|---|
| Price of No. 10½ Plow | $2.00 |
| " 11½ do | 2.25 |
| " Corn Plow | 2.50 |
| " No. 19½ | 4.50 |
| " No. 20 | 4.50 |
| " J. M. & Co. No. 2, with coulter | 3.50 |
| " " 3, do | 4.50 |
| " " 4, do | 5.00 |

A liberal discount from the above prices to dealers.

A. B. ALLEN, 187 Water Street, N. Y.

## FOR SALE OR EXCHANGE.

I offer for sale my farm of 300 acres and upwards, near the village of Salem. It produces well either grain or grass. The buildings are all that are necessary, and together with the land itself and fences, are all in good order. The garden is well stocked with small fruits and flowers. The situation is pleasant, the country healthy and beautiful. Price $10,000.

This property would be exchanged for real estate in any of the Southern States, change of climate being desirable.

Salem, Washington County, New York. JOHN SAVAGE.

## SHEPHERD DOGS FOR SALE.

Four very fine pups raised from an imported English dog and Scotch slut. Apply by letter, post paid, to Bn. Gates, 200 Broadway, N. Y. Or may be seen at the above place after 6 P. M.

## PERUVIAN GUANO AT REDUCED PRICES.

The subscriber keeps this superior fertilizer constantly on hand for sale, in bags, barrels, half barrels, and kegs. It comes direct from Mr. Bartlett, the Agent of the Peruvian Company, and is warranted genuine and of a first rate quality.

| | | |
|---|---|---|
| Price for ten tons or more | 2 | cents per lb. |
| " five and under ten tons | 2⅛ | do. |
| " two " five | 2¼ | do. |
| " one " two | 2⅜ | do. |
| " half " one | 2½ | do. |
| " less than half a ton | 3 | do. |

This Guano is packed in bags weighing from 120 to 150 lbs.; barrels, from 220 to 250 lbs.; half barrels from 115 to 130 lbs.; kegs about 60 lbs. each. When a larger quantity than one ton is taken, it is expected it will be in bags. No allowance for tare, and no charge for packages. Cartage extra.

A. B. ALLEN, 187 Water Street, N. Y.

## FIRE PROOF SAFES.

Gayler's Double Salamander Book Safes, warranted Fire Proof. Single Salamander Safes, equal, if not superior, to any made.

C. J. Gayler's Double Salamander, is the only Safe yet invented which is, beyond doubt, proof against the action of fire, strong enough to endure a fall from the third story of a building, with locks to each door of the best quality, which will defeat the attempts of burglars. This really fire proof article is constructed so as to combine two perfect iron safes, one within the other, each being made of wrought bar and plate iron, and lined between with the most perfect non-conducting and indestructible substances.

Those who are in want of an article that will afford sure protection, are invited to examine an assortment of the double and single Salamander Safes. Safes made, Book-cases, and any lock required, fitted to order, any size.

LEONARD BROWN, 80 Wall Street.

One of these Safes can be seen at my warehouse, where orders will be received. A. B. ALLEN, 187 Water St., N. Y.

## IMPERIAL OATS.

A few barrels of these superior oats can be had of the subscriber. Price $4 per barrel, or 1.50 per bushel.

A. B. ALLEN. 187 Water Street, N. Y.

## THE AMERICAN AGRICULTURIST.

Published Monthly, by SAXTON & MILES, 205 Broadway, New York, containing 32 pages, royal octavo.

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When Agricultural Societies order the work for distribution among the members, the price will be only FIFTY CENTS a year, for the Monthly Numbers, and SEVENTY-FIVE CENTS per copy for bound volumes. It will be expected that these orders come officially, and be signed by the President or Secretary of the Society. The object in putting our periodical at this very low rate is, to benefit the farming community more extensively than it could otherwise be done. We hope, henceforth, to see the Agriculturist in the hands of every Farmer and Planter in the country.

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Editors of newspapers noticing the numbers of this work monthly, or advertising it, will be furnished a copy gratis, upon sending such notice to this office.

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# AMERICAN AGRICULTURIST.

*Agriculture is the most healthful, the most useful, and the most noble employment of man.*—Washington.

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A. B. Allen, Editor. Saxton & Miles, Publishers, 205 Broadway.

## TO AGRICULTURAL SOCIETIES.

It will be recollected that one of our correspondents in volume 4, page 376, proposed that we should offer the paper to Agricultural Societies, when distributed among its members, at the low rate of FIFTY CENTS a year per copy. With a view of aiding all such in the good work in which they are engaged, and to encourage the farmers to become members, the publishers immediately acceded to the proposition, and, in addition, have since offered the volumes handsomely and uniformly bound for SEVENTY-FIVE cents per copy. We hope that these very liberal deductions from regular prices, will be met with a corresponding spirit, and that they may not only be the means of increasing the number of members to these Societies, but ensure a preference among them for the American Agriculturist. The great benefit that would arise from the dissemination of such a work as this among the people must be apparent to all. Some Societies have not only taken a large number of copies already, but, in addition to this, have employed agents to go around among the farmers to form clubs and deliver lectures. This course has again been marked with success, and finds much favor when properly carried into effect. Would that we could see a hundred thousand copies of our periodical distributed among the rural population, and faithfully read, although we should not make a single cent by it. There would be a great reform then in many places, and an amount of good done for the farming community that could scarcely be calculated. We earnestly entreat attention to this subject among all interested in agriculture.

Since the commencement of the present volume, our paper has materially increased in its circulation, and we have no doubt that several thousand new subscribers will be added to the old list before the close of the year. But we will not anticipate too much, knowing how hard it is to get the farmer and planter to support what is for their best interests. How important that their minds be open to conviction; yet we cannot expect to see this done till a general course of agricultural education is introduced into the district schools. This would make an effectual revolution.

Subscribers will please remit direct to the publishers, Saxton & Miles, 205 Broadway; and not to the editor, A. B. Allen, 187 Water Street. Enclose the money in preference to Post-office orders, as these are very troublesome to collect. The former may be done at the risk of the publishers.

## EARLY PLOWING.

Perhaps some of our readers may think that an article on plowing in the month of March is rather out of place. This depends entirely upon the climate and season. Sometimes we have a warm spell of weather in which plowing may be performed, even in the northern States; but plowing is always going on more or less during this month in the southern States. To those who cultivate clay lands, which they neglected to plow last autumn, we would say, take the first opportunity when the frost is out to plow such land, and be sure to plow it deep, and be careful to lead off all the surface water by running furrows in different directions before you begin to plow. Another caution, don't work either your men or your team in rainy weather, neither after a rain until the ground is sufficiently dried *not to make mortar* in the furrows by the tread of the team. The object of this timely plowing is, that the land may if possible have a chance at the frost before sowing or planting. The mechanical effect of the frost upon the land thus turned up and exposed, is to make a stiff clay soil much more friable, and to put it in a better state to receive the seed, and with no other preparation than a slight harrowing, to prevent its falling too deep in some places between the furrows. We write from our own experience in fall and winter plowing, of a very tenacious and stiff clay soil.

## PARSNIPS.

This month, in ordinary seasons, will permit in almost all regions of our country, the planting of the vegetables which endure the frost of spring. Among such are carrots and parsnips. These, of course, are to be found in every garden; and the carrot on nearly every farm as a field crop, where roots are grown for horses and cattle. As yet the parsnip has not been made a field crop to any extent, even in Europe, and not at all in this country. And still it is perhaps on all accounts the most valuable crop of roots that can be grown in any climate that will not permit the winter exposure of the turnip; and where the turnip will endure exposure, the parsnip does equally well, and is *quite* as productive, and in point of quality *far superior*. In the islands of Jersey and Guernsey they are cultivated extensively, and those who have most experience in their culture prefer them to turnips.

In all climates of the United States, north of Virginia, turnips, carrots, and potatoes, *must* be gathered and housed, or buried in winter; and when housed or buried, though with the utmost care, will in part decay; and if frosted, or over-heated, they are ruined. Hence it is that the farmer needs a crop that in any climate will endure the frost and exposure of winter. In the parsnip he has it. This root may be planted as soon as the frost is out of the ground in the spring; it will grow all the season, and until the ground freezes in the winter; nay, will grow during the thaws of winter; it will stand out through the winter and receive no harm, indeed be improved in its quality by the frost. It may be pulled at any time in the winter, and fed, and thus costs nothing to gather and store; and nothing is lost by decay, or frost, or heat. This cannot be said of the carrot, turnip, or potato. Here it is superior to them all; is it inferior in anything for a feeding crop? In nutritive properties it is equal in quantity, and as good in quality as the carrot, and superior in both to the turnip. In given weights, potatoes are superior to parsnips, carrots, or turnips; but of these there may be raised with the same trouble, expense, and manure, three times the quantity that can of potatoes. We have seen at the rate of 1,200 bushels of parsnips taken from an acre of ground. The same ground, under like culture, yielded only 300 bushels of potatoes.

We recommend a general introduction of parsnips as a field crop, as late winter and spring feeding for swine, horses, and cattle, and *especially for milch cows*. Let the ground be a mellow loam; plow well and deeply; *manure well* and abundantly with *both fine* rotted, and *coarse* unrotted manure; sow two pounds of seed to the acre; make the drills twenty inches apart; sow early, the earlier the better, say in March; cultivate well; stir the ground often, and keep all weeds down; have the roots about eight inches apart, and for this purpose commence to thin at the end of a month after they show above ground, and feed the milch cows with the roots pulled; when sufficiently thin, keep them well hoed until the tops cover the ground well; after which a light plow run between the rows occasionally will only be necessary. Such is the process of culture; they require no more attention than turnips or carrots; no insect troubles them; if planted early they grow equally well in a hot or a cold summer, as they keep the earth moist; they will grow for nine months in the year, and *need no housing* or burying in winter. Can our readers tell us of a root so valuable; cattle and horses are fond of it, and we know that it is in every respect equal to carrots, and superior to turnips. It grows in all temperatures of summer, resists all temperatures of winter, *and all decay*, and thus obviates all the objection made to carrots and turnips, viz., the expense and trouble of gathering, storing, and loss from decay. Will our readers not try it?

Cows eat parsnips with avidity, and the milk is finely flavored, and the butter delicious. Beef made from them brings the highest price in the London market. All animals, horses, cows, hogs, and sheep, eat them more readily than carrots, and will not touch potatoes when parsnips are to be had. In Jersey and Guernsey they are used to fat pork as well as beef, and the pork is of the best kind.

There is a peculiarity in the parsnip to which we ask attention. It may be turned into a winter crop. It may be planted in August and September, and will get a good growth by winter. In the spring following it will start with the first thaws, and continue to grow well all the following season, and will not seed. By this means very large roots may be grown, and the crop increased in quantity.

Seed may be obtained at any seed store at about seventy-five cents per pound. We trust to hear of its extensive cultivation in the coming season.

## THE STABLE.—No. 8.

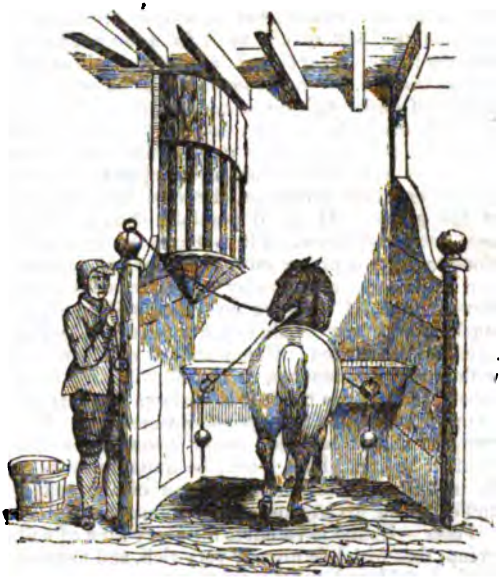
Our subject and illustration last month were biting and its management, and prevention; for this month they are the kindred ones of kicking and its prevention. Kicking is less common but more dangerous than biting; biting being rarely ever very serious; kicking, however, not unfrequently ending fatally. Horses that are habitual kickers, are more troublesome on account of the injuries inflicted on other horses than for those on their attendants. Some horses seem to have a mania for kicking; in the harness they kick their mates, in the stables all within reach, and when they cannot harm other horses, will kick at the stall partitions, or if those cannot be reached, will kick into the air. In such horses there will be found an excess of nervous energy, and they are expending it by this mode of exercise. Such horses are less vicious in pasture, for there they have full opportunity to exhaust themselves. In full work they moderate their propensity, and in excessive work lose it altogether. This species of kicker is beyond the reach of cure; the necessity of physical action to exhaust nervous energy is so great, that the fear of punishment is of no avail. He will break loose in his stable, at any hour, day or night, and kick his stall companions. Antipathies, he has none, for he will kick one and all alike. If such a horse is to be kept, he should be shut in a close box stall, and even then should be fastened with a halter having a throat latch. This will make a double security. If the door be left open, the halter will detain him; if the halter be slipt or broken the close stall prevents escape. But with all this security he will do mischief, when not in hard work. It is poor economy to keep such a horse. He may be most valuable as a worker, but he may very easily ruin a horse just as good as himself, and he may ruin himself. His only place is in a large coaching establishment, where eternal work keeps him subdued in energy, till death ends both life and kicking.

A different kicker is he who does it from badness of temper; in him it is malice; he kicks to do injury and gratify his violence of disposition. This kind of kicker is the most dangerous of all. He cannot be guarded against; work does not subdue him, but seems to make him more violent. If groom and horse keep away from him, he will not often seek them; but he will suffer no opportunity to escape him to inflict a blow if they come within reach. He will have favorites, and them, whether groom or horse, he will not touch; he will have antipathies, and against those he hates he is ever vigilant and never spares them. In the stable he will kick as he goes to and from the stall, or as others pass him; in the pasture he will be kind to his favorites and savage to those he dislikes. Unless he fancies his groom, there is constant war between them; all the operations of the stable are of a nature to make him worse. Such a horse can only be managed by a groom that is a favorite with him, and he should have none but favorite companions both for the stall and the harness, about him. With these precautions he may be rendered measurably harmless, but is never safe. At times he will lose all his likings and kick grooms and companions. This will happen whenever he is hungry, and is not fed as soon as pleases him, or is sick or tired. This kind of kicker is sometimes without a single redeeming or manageable quality. He will have no favorite. He is then worse than useless. His destiny should be a coaching establishment, where, as a wheeler at hard work, he may soon wear out a dangerous existence.

Many horses are taught to kick; for this the horses should not be punished, but the groom. If they be not old, and be treated kindly and punished for the fault, and all arts to make them kick be discontinued, they will soon lose the habit. Most horses in training will kick; the constant use of the brush and curry-comb, with the teasing of idle boys, brings on the habit; yet after they are removed from the exciting causes, the vice ceases. This kind of kicking is never dangerous; the horse will rarely attempt to injure, he merely threatens; yet sometimes when much irritated will do mischief. The vice in him may be removed by the omission of all teasing, by kind treatment, and punishment when deserved. In all such cases hold the groom responsible, and the horse will be what he should. Some horses only kick at others, and never at persons; keep such separate and they are harmless.

Kicking horses are frequently so valuable that, like savage biters, they are to be kept at all hazards. Such are good stallions and brood mares. These, as they must be kept, must be guarded against. All others had better be placed where rapid work will end life and vice together, that as short a period may be given as possible to endanger the lives of grooms and safe horses.

Our cut this month illustrates a method of managing a kicker. A rope is attached to the headstall of the halter, and passes directly back to the post of the stall partition. When the groom is to enter the stall he pulls the horse's head by the rope back to the post, and then seizes him by the head. When he leaves the stall he carries the head back with him till he can safely escape. Another method is to have a small door in the partition at the head of the horse; through this the groom enters and comes out safely. When this can be done it is the best mode; and where it cannot be the rope should be used.



STALL FOR A KICKER.—FIG. 17.

In the management of kickers nothing but courage will answer. The horse discovers timidity very quickly, and is not slow to avail himself of the advantage it gives him to carry his point. The groom should be bold, and when he approaches the horse should give him warning; the whip or the loud voice will intimidate, and the horse should be placed on the one side of the stall when it is entered. Directly the horse sees there is no fear of him, and that he will be punished, he submits if he be not a ferocious one. Still he is to be watched; for if he be not, he will soon know it, and a blow will be the result. Many give warning; they flirt the tail and raise the leg; such are easily avoided; others give none, and strike very rapidly; others only when the groom leaves the stall, or when his back is turned. In all these cases the management is the same; constant watching, decision, threatening and punishment, if these will deter; and if not, then the reliance must be on the door by the head, or the rope. In all cases the groom should keep near his horse, so that the kick will be a push instead of a blow; and all kickers should be shod with *flat shoes without caulks*.

## RULES FOR THE APPLICATION OF GUANO, ITS HISTORY AND VALUE.

*Preparation.*—Before using guano, pass it through a fine sieve, and all lumps remaining break up, and these pass through the sieve. Now take at least four times its bulk of sand, or dry sandy, or light loamy soil, and pass this through a coarser sieve, if you have one, and mix it in layers with the guano. Let this compost lie a few days—several weeks would be better—then toss it over and beat it up well together, and it will be fit for use. Some prefer mixing the guano with ten or twenty times its bulk of soil for a compost, and do not take the trouble of sifting it, but mix them together in alternate layers as well as it can be done with a shovel. Sifting, however, is best, as it is done so much more evenly. Sawdust is an excellent material with which to mix guano; but powdered charcoal is perhaps the best of all, as it fixes the ammonia, absorbs its unpleasant smell, and is in itself an excellent manure. When convenient to be obtained, plaster of Paris ought to be used in the compost, at the rate of 30 to 50 lbs., for every 100 lbs. of guano: it acts in the same way as charcoal. Lime and ashes must be avoided in composts, as they rapidly expel the ammonia, the most valuable part of the guano. Muck, if possible, should not be used for the compost, as it is too moist and tenacious to form a proper mixture. The same objection holds good against clay or any tenacious soil. Nevertheless, if there be no other soil at hand, muck or clay may be thoroughly dried and pulverized, and then used. Guano should not be mixed with barn-yard manures, or indeed with any *moist* substance, as these cause it to undergo the very decomposition requisite to promote vegetation. The compost should be made under cover, unless the weather be dry. Rain would be quite injurious to it, in hastening the decomposition of the guano, and expelling its ammonia in the atmosphere.

*Value.*—Guano is valuable for every kind of soil, except that which is already very rich, and to every kind of field and garden crop, grass, grain, vegetables, fruits, and flowers. The reason it is so serviceable to all, arises from the fact of its containing every kind of food necessary for the growth of stem, flower, fruit, and seed. The eminent chemist, Dr. Jackson, of Massachusetts, says: "It comes nearer to a UNIVERSAL COMPOST than any other excremental manure."

Guano is particularly valuable for conservatories and gardens, inasmuch as it is quickly and easily applied; its fertilizing matter is in a very condensed form; and it contains no seeds of weeds to shoot up and check the growth of plants desired to be cultivated. Its fertilizing properties being in a very condensed form, the whole cost of enough for an acre and its application, is frequently less than the cost of *mere transportation* of city or barnyard manures to the ground where they are to be used. This is a very important consideration to the farmer, and especially the gardener.

*Quantity Required per Acre.*—This depends upon the kind of soil and its condition, and the kind of crop to be grown. From 250 to 400 lbs. of guano per acre is the safest quantity to apply. It acts quickest in a light sandy soil or loam, and is excellent to start crops on cold, moist land. It hastens the ripening of crops on all kinds of soil.

*Take Particular Notice.*—In speaking below about applying a tablespoonful, or any other quantity of guano, we mean that amount, without admixture; if mixed with four times its quantity of soil, then it would require *five* tablespoonfuls of this compost to be applied to get the single *one* of guano, &c.

*Grass and Grass Lands.*—Spread broad-cast, from 250 to 400 lbs. per acre, mixed in a compost of earth of about four to one. As soon as the snow is off the ground and the frost begins to come out, is the best time to apply it. Another application of from 150 to 200 lbs. may be given in midsummer, directly after the first mowing. Care should be taken to do this just before a rain. Grass lands may be top-dressed in the fall; but in that case, much of the guano is likely to be washed off by the heavy rains and lost. We recommend applying it at the rate of 200 to 300 lbs. per acre, on land recently seeded with grass. This should be done just previous to harrowing and rolling.

When sward land is to be plowed for a crop, it may be top-dressed with guano previous to plowing, and then be turned under the sod. It will warm and hasten the decomposition of the soil, and afford food for the crop about the time the grain or fruit is filling, and thus add largely to the product

*Wheat, Rye, Barley, Oats, &c.*—On winter wheat and rye, spread broad-cast from 200 to 300 lbs. of guano, per acre, just before the plant commences growing in the spring. If applied in the fall, unless on *very poor* soil, it is apt to give the crop too rank a growth before winter sets in. On spring wheat, rye, barley, oats, &c., spread the same quantity at the time of sowing, and harrow it in with the seed. If this be not convenient it may be applied within a week or fortnight after the grain appears above ground. Caution must be used about applying too much on the small grain crops, otherwise it will be likely to promote too rank a growth and occasion smut.

*Indian Corn.*—For this crop guano may be spread broad-cast upon the land, the same as for wheat; but it is better to apply it directly to the hill. Hollow out the hill with the hoe, put in about a tablespoonful of guano, cover it over one-and-a-half to two inches deep with soil, and then sow the seed and cover up. If the corn be sowed in drills, furrow out lightly with a one-horse plow, then apply the guano as in hills, and cover it with the hoe or other implement. At the first time hoeing, put double the above quantity of guano around the hill, and hoe it in, taking particular care that it does not touch the stalks, otherwise it will be very likely to kill them. If this can be done just before a rain, so much the better. Some apply guano again just as the corn is ready to tassel and fruit, but we should hardly think this necessary except in very poor soil. If more than the above quantity be applied to corn, it must be planted extra wide apart, otherwise the growth will be so large as to make the stalks and leaves intermix and produce smut.

*Potatoes, Tomatoes, Sugar Cane, Tobacco, Cotton, Cabbage, Cauliflower*, and some other crops, may be treated nearly in the same manner as corn.

*Peas, Beans, Turnips, Beets, Carrots, Parsnips, and Onions.*—If these are sown broad-cast, apply the guano in the same way as directed to wheat; if in drills, as directed with corn, except it might not be best to cover the guano with more than one to one-and-a-half inches of soil in the drill, and then sow the seed.

*Asparagus and Celery.*—It is a good top-dressing for these early in the spring.

*Melons, Cucumbers, Squashes, and Pumpkins.*—Treat to guano the same as corn in the hill, allowing an even tablespoonful for each plant to be left to run to vine.

*Strawberries, Raspberries, Currants, Grape Vines,* and indeed all fruits, may have guano dug in about the small roots, early in the spring.

*Apple, Pear, Peach, Cherry, Plum, Quince, and other Fruit Trees.*—Guano not only adds to the size, and fair, plump appearance of all fruits, but is said to increase the delicacy of their flavor. It should not be applied around the *body* of the tree unless it be a *very small* one, but to the extreme ends of the roots, otherwise it cannot be absorbed, and of course will be nearly all lost. Roots of trees spread under ground about the same distance from the trunk, as the branches do above ground. Let the soil be well trenched from one to three feet wide, according to the size of the tree, directly under the circle formed by the ends of the branches, and the guano then be incorporated with the soil, within a few inches of the top of the rootlets; it will thus find its way to their mouths, and as it decomposes be taken up in the sap for the benefit of the tree and its fruit. If applied later than May or June, it will make a large, soft, spongy, growth of *unripened* wood of no value whatever.

*Steeps and Liquid for Watering Plants.*—For one pound of guano use 5, 10, or even 20 gallons of water; or at the same rate for a smaller proportion. Stir it up well and cover over the vessel tight, so as to prevent the escape of the ammonia, and let it remain from one to three days before being used. Now water *around* (*not upon*) the plants as occasion may require. If this liquid touches the plant, or its leaves, it is apt to burn it. Previous to watering, stir the earth well around the plant. One pound of guano for 20 gallons of water may be thought to make a very *weak* steep for watering plants, but such is not the fact; we have seen the most surprising results from watering with a steep no stronger than this. Some of our friends last year steeped their corn and other grain in this liquid, from 3 to 24 hours previous to planting. It came up unusually quick, and grew very rapidly. For steeps we would recommend 10 to 20 gallons of water to each pound of guano, using the latter quantity for the more delicate seeds. It is so powerful a substance there is great danger of its killing the embryo of the seed, if applied in too strong doses. The phosphate of lime and magnesia in the guano are insoluble in water; the sediment therefore is valuable to spread on the land.

*To the Ladies.*—Guano is very easily applied by you, and in the neatest possible manner, to your conservatory and garden plants. Purchase a neat keg of it containing about 60 lbs., have a hole bored in the head, into which insert a stopper. Now place the keg on its side as if to draw liquor out of it. Then as often as you wish to use the guano, take out the stopper and draw out what is necessary from the keg with an iron rod flattened and slightly crooked at the end. Now make a liquid of it as described above, or with a trowel dig a small quantity of it in the earth, around the plant. This, says Mr. Teschemacher, must be done before the plants form their full sized flowering buds, otherwise they will begin to make new shoots, the buds will be left behind, and the flowers will open with *diminished beauty*. Be very careful not to let the guano touch the stems or leaves of your plants, otherwise it will be certain to *kill* them.

A boquet of flowers may be preserved a long time in water, by adding a very small quantity of guano to it as often as renewed. A quarter of an ounce to a quart of water would be sufficient. It might be well also to add a tablespoonful of pulverized charcoal at the same time.

*Caution in Application.*—Be very careful to place the guano so that it will not touch the embryo, or young roots, or stalks of corn, potatoes, cabbages, tobacco, sugar cane, cotton, or any plant that has but one stem from its root; for it is of such a burning nature, that if a portion no larger than a small pea comes in contact with the plant, before being watered or rained on, or undergoing partial decomposition, it instantly kills it. With grass and small grains this caution is not important, as other shoots from the roots will immediately supply the place of those killed.

*Destructive to Insects.*—That guano is destructive to insects may be proved by any one disposed to make the experiment. Take insects and put them in a saucer or bottle, and sprinkle a little guano on them; or mix up a tablespoonful of guano in a gill of water, and pour this liquid upon the insects. It will be found to kill the smaller ones almost instantaneously, and the larger in one or two hours' time.

*History of Guano.*—Guano, or huano, as it is called in the Peruvian language, is the dung of sea-birds which has been accumulating for centuries on the headlands and islands of the coast of Peru; the birds resorting to these places to lay, and hatch, and rear their young. A good many of the young die there, or are killed by being trodden under foot by the old birds. More or less feathers are annually shed from the old birds and incorporated with the dung, all adding to its value. These birds exist in countless numbers, and living almost entirely on fish, their manure is of the richest kind produced. It never rains on the coast of Peru; the fertilizing properties of the dung, therefore, are not subject to be washed out; and as very little of the salts can be evaporated in a dry atmosphere, it retains nearly all its fertilizing properties for ages. This dry climate is peculiar to the coast of Peru; guano coming from Chili or any other quarter of the globe, cannot therefore be so good as the Peruvian, as the analyses below fully show.

Guano has been used by the Peruvians from time immemorial, for manuring Indian corn and other crops and fruits. After the Spaniards conquered Peru, they adopted the use of it in their husbandry, and have continued it with the best effects for more than three centuries. In the West India Islands it has been used with good effect for a long time. It was first introduced into England and other parts of Europe, to considerable extent, in 1840, and so popular has it become with the farmers of that country, that upwards of 156,000 tons were consumed of it the past year. It was first imported into the United States in 1824, but was little used till last year, when the season being very dry, rendered it peculiarly unfortunate for experiments. Guano must have moisture to derive benefit from it. The Peruvians always irrigate their lands after applying it. We should take care to apply it just before rain, or early in the spring, when the ground is wet, unless it is buried deep enough for the moisture of the ground to fully act upon it and *ensure decomposition*. This may be easily done in planting corn, potatoes, and some other crops, as directed above.

*Best Kind of Guano.*—The superiority of the *genuine* PERUVIAN Guano has led to various attempts in England, and latterly in the United States, to import and sell that of a very poor and sometimes almost worthless quality, under the name of *Peruvian*. Farmers should be careful to ascertain the origin of what they buy, *to avoid imposition*. The only *genuine* Peruvian Guano brought to this country is shipped by the Guano Company of Lima, *under the authority of the Government of Peru*. Every cargo thus shipped will come to New York, to the consignment of EDWIN BARTLETT, or to Baltimore, to SAM'L K. GEORGE. *Every other offered as Peruvian is spurious and should be avoided.* An inferior kind from Chili has been offered as *Peruvian*, an analysis of which will be found below, showing it to be of little value.

For further particulars of this important fertilizer, see Mr. Teschemacher's Essay, recently published in an octavo pamphlet of 50 pages, at Boston. It is the best work on the subject we have yet seen, and we are under considerable obligations to it in making up the above rules. See also American Agriculturist, vol. 3, pages 23, 98, 220, 222, 251, 334, 348; and vol. 4, pages 36, 108 156, 179, 236.

ANALYSES OF VARIOUS GUANOS BY DR. CHILTON, OF NEW YORK.

| | *Peruv.* | *Chilian.* | *African.* |
|---|---|---|---|
| Phosphate of lime, | 26.82 | 52.65 | 38 00 |
| Ammoniacal salts | 46.43 | 4.16 | 22.94 |
| Oxalate of lime | 5.44 | — — | — — |
| Phosph. of magnesia and ammonia | 2.00 | — — | — — |
| Carbonate of lime | — — | 8.12 | — — |
| Chloride of sodium | .51 | 5.36 | 4.17 |
| Sulphate of potassa | — — | — — | |
| Sulphate of soda | — — | 4.41 | — — |
| Silica, Alumina, &c. | 1.25 | 16.22 | .58 |
| Undetermined organic matter containing nitrogen | 5.45 | 3.88 | 15 26 |
| Water and loss | 12.10 | 5.20 | 19.05 |
| | 100.00 | 100.00 | 100.00 |

ANALYSES OF VARIOUS GUANOS BY EMINENT CHEMISTS OF EUROPE.

| | *Peruvian.* | *Chilian.* | *African.* |
|---|---|---|---|
| Ammoniacal salts, | 33 to 40 pr. c. | 12 pr. c. | 23 to 28 pr. c. |
| Animal matter | 5 to 7 " | 3 " | 5 to 9 " |
| Salts of potash and soda | 8 to 12 " | 8 " | 9 to 11 " |
| Phosph. of lime, Magnesia, and Oxalate of lime, | 23 to 28 " | 53 " | 30 to 37 " |
| Water | 10 to 13 " | 22 " | 18 to 25 " |
| Sand | — — | 2 " | — — |

## ALPACAS.

AT the January meeting of the American Agricultural Association, a committee was appointed to collect all the information to be had in regard to Alpacas, and to devise a way of introducing them into the United States. At the February meeting of the Association, the chairman, R. L. Pell, Esq., reported favorably to the project. He said, that the committee had given information through the public papers of their appointment, and had solicited subscriptions in aid of the enterprise. They put themselves in communication with Amory Edwards, Esq., an American merchant, residing in Peru, who chanced to be in New York. From him they obtained much valuable information. The Alpacas are to be bought in Peru for six dollars a piece. It is proposed by the committee to import three hundred. For this purpose it will be necessary to raise $10,000. It will cost $1,800 to purchase 300, and $1,200 more to lay in the necessary feed for them during their voyage round Cape Horn, home. Of the sum of $10,000, the committee had already on the 1st of February, $8,000 subscribed. Of the $10,000, it will be necessary to place in London, immediately, the sum of $3,000, against which to draw for the purchase of the animals and their food. Bills on London are more valuable in Peru than money, and this is the best remittance. It will cost $6,000 to $7,000 for the freight of the vessel from Peru, home. The whole vessel must be taken up by the animals and their food. This, of course, is the great expense. The animals delivered here, if they arrive all alive, will cost about $35 each, and more per head in proportion to the number that may be lost on the voyage. They are to be brought in a first class vessel, that they may be more secure, and insurance may be small.

Any person who wishes to participate in the importation may still do so. They will for this purpose address R. L. Pell, Esq., New York. When the animals arrive, they will be divided among the subscribers, in proportion to the amounts subscribed by each person. In case there should be subscribed more than $10,000, there will be more animals imported, or the subscriptions will be rateably diminished to the aggregate of $10,000.

Mr. Edwards, who sailed for Peru on the 5th of February, with the liberality that characterizes a patriot, has tendered his services *free of charge*, and, as he returns next summer to the United States, has agreed to accompany the Alpacas on their voyage here, and to give his personal attention to them. He states that they yield about 12 lbs. of wool per head, and that large quantities of their wool are exported from Peru to England; that it is worth in England about forty cents per pound; that the flesh of the animal is highly prized in its own country.

They live on the elevated plains of Peru, and on the sides of the mountains, and endure an elevation in the tropical regions of 12,000 feet. In the mountainous regions of Virginia, North Carolina, and Tennessee, they will feed themselves all the year, and flourish perfectly. In the north they will need the same care and protection that sheep do.

The high character and responsibility of the committee makes this a good opportunity to obtain Alpacas, and we advise all who wish them, to address Mr. Pell and forward their subscriptions.

## AMERICAN AGRICULTURAL ASSOCIATION.

THE Annual Meeting of this Society for the election of Officers for the ensuing year, was held at the Historical Society's rooms, on the 2d of February, 1846. The chair was taken by Hon. Luther Bradish.

The minutes of the last meeting were read and approved.

*Mr. Pell* made the report of the Committee for the introduction of the Peruvian Alpaca into this country.

A letter from Mr. John Rhey, of Pittsburgh, Penn., addressed to A. B. Allen, upon the same subject, asking for information, &c., was read.

*Mr. A. Edwards* communicated some valuable information relating to the Alpaca.

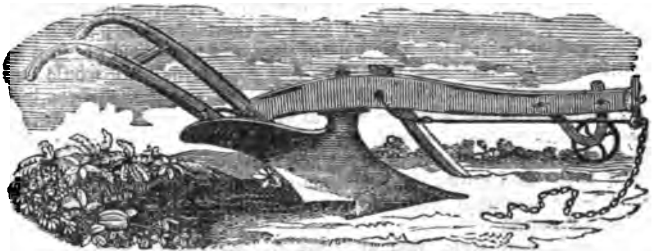
The Society then proceeded to the election of officers. The following gentlemen were elected by ballot.

*For President*, Hon. Luther Bradish; *for Vice Presidents*, Hon. Theodore Frelinghuysen, James Lenox, James Boorman, A. H. Stevens, M.D., T. A. Emmet, H. Maxwell, S. Whitney, S. Knapp, Vice Chancellor McCoun, Cyrus Mason, D.D., W. A. Seeley, J. S. Livingston; *for Treasurer*, A. P. Halsey; *for Recording Secretary*, R. Ogden Doremus; *for Corresponding Secretary*, A. H. Green; *for Executive Committee*, R. L. Pell, . W. Draper, M.D., Archibald Russell, Col. Edward Clark, D. P. Gardner, M.D., R. K. Delafield, Shepard Knapp.

* * *

CHITTENDEN COUNTY, VERMONT, AG. SOCIETY.—The Directors of this Society have just had their first meeting the present year, and have offered to the public a list of *three hundred and twenty-five* premiums, appropriating between $700 and $800 to various objects. We were the first, probably, to adopt the plan of giving an agricultural paper to every member of the Society who desired it; and we find this plan meets with universal favor. We employed an agent to go into every town in the County, and deliver two lectures on Agriculture, and take up subscriptions. Our number of members is more than doubled by this plan, and our prospects were never so encouraging. The whole mass of our community are deeply interested in the working out of this new experiment; and we anticipate from it the best results. We wish that other County Societies would try the same measure, and tell the world whether it is good or bad; whether the interests of the farmer are promoted by it or not. We wish to hear from other organizations on the subject, and hope they will open a correspondence with us, detailing their success. L. G. BINGHAM,
President C. C. Ag. Society.
*Williston, Vt.*, Feb. 14, 1846.

## THE EAGLE PLOW.



THE EAGLE PLOW.—FIG. 18.

THE plow of which we give the annexed cut, is manufactured by Messrs. Ruggles, Nourse & Mason, of Worcester, Mass.; and the only place to find the *genuine* article in this city, is at our warehouse, No. 187 Water Street. We consider it the most perfect plow in the United States for *general* work. It will turn a furrow from 6 to 12 inches deep, and from 10 to 18 inches wide, according to the size used, and the requirements of the plowman. Four different sizes are already constructed, and others can be manufactured on the same principles if desired. The cutter can be raised and lowered at pleasure, or be taken out of the beam entirely: the same may be done with the wheel; but being generally fastened on the outside, this is unnecessary, as it can be raised so high as to admit the plow into the earth if wished, nearly up to the beam. Instead of a clevis, it has a draught-rod attached, to pull by, when preferred, thus making it a *perfect centre-draught plow*.

The latest improvement in the Eagle plow is a neat and simple dial apparatus (recently patented by Ruggles, Nourse & Mason) attached to the end of the beam, by which the plowman can easily and quickly place the end of the rod in a position that will cause the share to take any required width or depth of furrow. Considering the work it does, the plow moves with great ease. A single pair of horses or oxen, in ordinary soils, will take a cut from 6 to 7 inches deep, and 10 to 12 inches wide, with the No. 1 Eagle, and do the work in admirable style, laying the furrows *flat over* or *lapped*, as required, and according to the set of the wheel and cutter.

Cheap, worthless imitations of this admirable plow have been recently got up in New York and elsewhere. We caution the public not to be imposed upon by them. To prevent this, their only safety is to address their orders directly to us, or to Ruggles, Nourse & Mason, at Boston, or Worcester, Massachusetts.

* * *

REDUCTION OF THE BRITISH TARIFF.—It will be seen by reference to our Foreign News, that Sir Robert Peel proposes very important reductions in the duties on agricultural products, admitting bacon, beef, hay, hides, meat, and pork, *free*; and others, such as buckwheat, Indian corn, and tallow, nominally free. This is to be followed by a gradual reduction of duties to the same scale, on wheat, flour, and some other things, which will open a very extensive market hereafter to American products, into Great Britain and Ireland. We hope that these concessions will be met with a corresponding spirit on the part of Congress, and that this *war of high tariffs* may hereafter cease. One nation may be so situated that it can produce certain articles cheaper and better than another nation; why then should it force other products by high tariffs, rather than make a beneficial exchange with its neighbors?

## LIEBIG'S PATENT PROCESS OF MANUFACTURING MANURE.

It has been ascertained, that the growing of any crop on land in a state of cultivation, and the removing and consuming of such crop wholly from the land where it was grown, takes away mineral compounds; and it has been suggested by Professor Liebig, that in cultivating land and supplying manure thereto, the manure should be such as to restore to the land the matters and the quantities thereof, which the particular plants have abstracted from the soil during their growth. It has been observed in the chemical examination of marls and vegetable ashes, that the alkaline carbonates and the carbonate of lime can form compounds, the solubility of which depends on the quantity of carbonate of lime contained in the particular compound. It has further been found, that the said alkaline carbonates can form a like compound with phosphate of lime, in which the carbonate of potash or soda is partly changed into phosphate of potash or soda.

Now, the object of this invention is to prepare a manure in such a manner as to restore to the land the mineral elements taken away by the crop which has been grown on and removed from the land, and in such manner, that the character of the alkaline matters used may be changed, and the same rendered less soluble, so that the otherwise soluble alkaline parts of the manure may not be washed away from the other ingredients by the rain falling on the land, and thus separating the same therefrom. And it is the combining carbonate of soda or carbonate of potash, or both, with carbonate of lime, and also the combining carbonate of potash and soda with phosphate of lime, in such manner as to diminish the solubility of the alkaline salts to be used as ingredients for manure (suitable for restoring to land the mineral matters taken away by the crop, which may have been grown on and removed from the land to be manured), which constitutes the novelty of the invention.

I would here state, that although the manures made in carrying out this invention will have various matters combined with the alkaline carbonates, no claim of invention is made thereto separately, and such materials will be varied according to the matters which the land to be manured requires to have returned to it, in addition to the mineral substances above mentioned. The quantity of carbonate or phosphate of lime, used with carbonate of soda or potash, may be varied according to the degree of solubility desired to be obtained, depending on the locality where the manure is to be used, in order to render the preparation less soluble in localities where the average quantity of rain falling in the year is great; but, as in practice it would be difficult to prepare manures to suit each particular locality with exactness, I shall give such average preparations as will suit most soils as manure, and I will afterwards give such information as will enable parties desirous of applying the invention under the most disadvantageous circumstances to have manure manufactured for their particular cases. In making manure according to the invention, I cause carbonate of soda or of potash, or both, to be fused in a reverberatory furnace, such as is used in the manufacture of soda ash, with carbonate or phosphate of lime (and with such fused compounds I mix other ingredients as hereafter mentioned), so as to produce manures; and such compositions, when cold, being ground into powder by edge-stones or other convenient machinery, the same is to be applied to land as manure. And in order to apply such manure with precision, the analysis and weight of the previous crop ought to be known with exactness, so as to return to the land the mineral elements in the weight and proportion in which they have been removed by the crop.

Two compounds are first prepared, one of which is the basis of all manures, which I shall describe as the first and second preparations.

The first preparation is formed by fusing together two or two-and-a-half parts of carbonate of lime, with one part of potash of commerce (containing, on an average, sixty carbonate of potash, two sulphate of potash, and ten chloride of potassium or common salt, inthe hundred parts), or with one part of carbonate of soda and potash, mixed in equal parts.

The second preparation is formed by fusing together one part of phosphate of lime, one part of potash of commerce, and one part of soda ash.

Both preparations are ground to powder, other salts or ingredients in the state of powder are added to these preparations and mixed together, or those not of a volatile consistency may be added when the preparations are in a state of fusion, so that the manure may represent as nearly as possible the composition of the ashes of the preceding crop. This is assuming that the land is in a high state of cultivation; but if it be desired to grow a particular crop on land not in a high state of cultivation, then the manure would be applied in the first instance suitable for the coming crop, and then in subsequent cases, the manure prepared according to the invention would, as herein described, be applied to restore to the land what has been taken therefrom by the preceding crop.

*Preparation of manure for land which has had a wheat crop grown on and removed therefrom.*

Take of the first preparation six parts by weight, and of the second preparation one part, and mix with them two parts of gypsum, one part of calcined bones—silicate of potash (containing six parts of silica), and one part of phosphate of magnesia and ammonia.

And such manure is also applicable to be used after growing barley, oats, and plants of a similar character.

*Preparation of manure for land which has had a crop of beans grown thereon and removed therefrom.*

Take fourteen parts by weight, of the first preparation, two parts of the second preparation, and mix them with one part of common salt (chloride of sodium), a quantity of silicate of potash (containing two parts of silica), two parts of gypsum, and one part of phosphate of magnesia and ammonia.

And such manure is also applicable for land on which peas or other plants of a similar character have been grown and removed.

*Preparation of manure for land on which turnips have been grown and removed therefrom*

Take twelve parts by weight, of the first preparation, one part of the second preparation, one part of gypsum, and one part of phosphate of magnesia and ammonia.

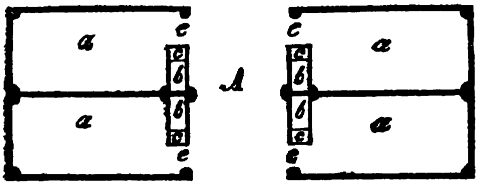
And such manure is also applicable for lands where potatoes or similar plants have been grown and removed.

I would remark, that I have selected the above cases, because they represent the chief of the products cultivated in this country; and in doing so, I have given such average preparations as will be beneficial in most, if not in all cases, as manure, to be used after the different crops mentioned; but manures may be prepared according to the invention, for other plants than those mentioned; and, if desired, manures may be made with greater exactness for those plants which have been mentioned for particular cases, if the matters of which the plants are composed and the quantities are first ascertained, by burning the plants and analyzing the ashes, and then combining the manure according to the analysis. The manure so made is to be applied to the land in quantities, as great or greater than the quantities of the elements which have been removed by the previous crop. It should be stated, that where the straw of wheat and other similar plants which require much silicate of potash, is returned to the land as manure, that is considered to be the best means of restoring the requisite silicate of potash to the land, in which case, in preparing the manures above mentioned, the silicate of potash would be omitted.

Having thus described the nature of the invention, and the method of proceeding under it, I would wish it to be understood, that what I claim, is the preparing and applying, in the manufacture of manure, carbonate of potash and carbonate of soda with carbonate and phosphate of lime, in such manner as to render the alkaline salts in manufactured manure less soluble, and therefore less liable to be washed away by rain before they are assimilated by the growing plants. James Muspratt.

*English Repertory.*

## A SOUTHERN BARN.



Ground Plan.—Fig. 20.

A, passage way, 7 or 8 ft. wide; *a a a a*, stalls, 9 ft. long and 7½ ft. wide; *b b b b*, mangers for hay, 2 ft. long, 1½ ft. wide, and 1½ ft. deep; *c c c c*, boxes for grain, 1½ ft. long, 1 ft. wide, and 1 ft. deep; *e e e e*, doors leading from the passage way into the stalls, 6 ft. high and 2½ ft wide.

The horse's head is always at the door where his food is; he needs no halter, and can turn round in his stall, which gives him room to lie down at his ease. When you wish to feed, it can be done, without running the risk of being kicked, and the horse's head is where you want it to bridle him. The large passage will admit a cart or small wagon to pass through and receive the dung of the stable.

The partition walls should go down to the floor of the stall, whether of brick or stone. The door should be open to admit light and air. About 6 inches from the floor there should be an air hole 3 or 4 inches wide, and above, under the plate, there should be an opening of about 4 to 6 inches, the width of the stall. The partition wall should not be less than about seven feet high, to keep the horses from biting each other—no opening allowed on the partition walls. On the posts in the passage there should be pins or hooks to hang up bridle, halter, &c. The above plan of stalls may be extended to any number, according to the length of the barn. It should be 25 or 26 ft. wide if double rows of stalls are wanted; and if only one row of stalls, then 16 ft. wide will do. Between the floors it should be 9 or 10 ft. The passage or outside door should be as wide as the passage, and have three or four hinges to each one, large and strong.

*South Carolina.* John B. Miller.

## FENCING.—No. 2.

In my last, I omitted to state one of the losses from fencing, which, though trifling to each individual, amounts to something in the aggregate. A mile of our worm-fence occupies half an acre of ground. If there are 100,000 miles of fencing in the State, then 50,000 acres of land are covered and made useless by fences. Supposing its average value to be $5 per acre, here are $250,000 more of capital lying idle.

In most parts of Europe there are no fences, and you may travel day after day, through beautiful fields, coming up to the road side. One feels as though he was riding through his own plantation. Here the section fences shut out much of the beauties of the growing crops and varied landscape, and frown defiance on every passer-by, eternally marking the fact that you are on another's soil, and a mere wayfarer. How much the pleasures of travelling and the interest in agriculture are diminished by this!

Then, again, we have here to keep up endless lanes—to close up our change roads, or put up gates, which are expensive, troublesome, and a constant source of vexation. Half the troubles of a planter's life are in some way connected with his fences. Besides the never-ending labor, he has to clog, wound, and kill his neighbor's hogs, which are sure to find all the weak places; and he after all loses more or less of his crop every year. These trespasses, and the closing or changing of road, or leaving open gates, occasion nine-tenths of the heart-burnings and quarrels among neighbors. It is scarcely possible to maintain "peace and good will on earth," where rail-fences and stock ranges are the fashion.

I have said that after all our ranges are of little or no value. I believe that, in most instances, we feed as much to our hogs at any rate, as they would require in pens, and as much as the proper number of good cattle would consume. Let us suppose we feed only half as much now as we should feed without ranges, does any one doubt that if our stock was kept up all the year round, and their food doubled, they would give us double the meat; or, in other words, that with the same food half the number of stock would give us just as much meat as we get now? Our range system deprives us of all the benefit of improved breeds of all kinds.

Berkshire and Short-horns were not made for such grass as our woods afford, or cane and acorns. They are, when so treated, inferior to our native breed. Feed both breeds, however, and the improved ones are twice as valuable as the native. Now, hogs put up to fatten, will generally require about four bushels of corn each, when in the pen, and weigh perhaps 150 lbs. net. They have consumed at least as much, first and last, before penning. I doubt if we do not with all our range give at least ten bushels of corn for every 150 lbs. of pork killed in the State. Now, after some experiments, I will guarantee, that if a sow be fed with half a pint of corn daily, properly prepared in slop, for every pig she has, until it is weaned, and the pig be then allowed the same, gradually increasing the quantity until the ten bushels are gone, he will weigh at that time 300 lbs. Of course it must be done judiciously, and without waste. If the corn is ground into meal, or the corn and cob ground up fine together and boiled or fermented, it will go much farther. And all this can be done with as little trouble as feeding in the common way. A hand will attend to more hogs in pens than he can properly attend to in ranges.

By the proposition thus stated, the hog raiser will at least save himself by keeping up his hogs. If his neighbors would all do the same, they would save the expense of fences. But while the hog was consuming this ten bushels of corn, he would, if properly supplied with litter, make at least two hundred bushels of the very best quality of manure. One hand could supply litter, &c., for 100 hogs; or it might be done as our stables are (too commonly), filled only on rainy or idle days. The adoption of this system, however, accompanied with the certainty of making a large quantity of manure with little comparative feeding, would induce planters to make the manufacture of manure a regular business. A hog will not consume more than the eighth of what a horse will, and his manure will almost equal in quantity, and surpass in quality, that of a horse. Two hundred bushels of hog manure put on corn, say 50 bushels to each acre, will make a certain increase of 5 bushels per acre, first and last, if not more. We have then 20 bushels of corn returned to us, for 10 fed away. Of this, 10 bushels will more than cover the extra trouble of making and putting on the manure, and the other 10 will replace that consumed by the hog. We then actually get the hog for nothing, while our land is improved and our bacon also.

These calculations sufficiently verified, induce me to keep up my own stock for my own profit, though I live in a pine forest contiguous to swamps, and have ranges and timber fences in any quantity. If all would do so likewise, I cannot help thinking the greatest advantage would result to the State. If a law was passed requiring every man to keep up his stock on pain of forfeiting them, I believe it would be of more real service to agriculture, than any one law the legislature could pass. We should save $1,000,000 annually; we should have an end put to half the quarrels, fights, and lawsuits, that take place; fine breeds of stock of all kinds would be introduced, appreciated, and taken care of; our lands would be improved, and our crops increased; and finally, we should all raise our own bacon—at home and actually without cost—and all of these benefits would produce in turn, many more necessarily arising from them. COKE.

*South Carolina, Feb.*, 1846.

## AGRICULTURAL CHEMISTRY AND GEOLOGY.—No. V.

*Q.* Upon what does the beneficial action of nitrate of soda upon plants depend?

*A.* Upon its supplying nitrogen and soda to the growing crops.

*Q.* What quantity would you lay upon an acre?

*A.* From 1 cwt. to 1½ cwt. to an acre.

*Q.* What is sulphate of soda?

*A.* Sulphate of soda is the substance commonly called glauber salts, and consists of sulphuric acid (*oil of vitriol*) and soda. It sometimes produces good effects when applied as a top-dressing to grass lands, to turnips, and to young potato plants.

40 lbs. of sulphuric acid with 31 lbs. of soda, form 71 lbs. of *dry* sulphate of soda.

*Q.* How is common salt applied?

*A.* Common salt may either be applied as a top-dressing, or it may be mixed with the farm-yard or other manure, or with the water used in slaking quick lime.

*Q.* In what places is salt most likely to be beneficial?

*A.* In places that are remote from the sea, or are sheltered by high hills from the winds that pass over the sea.

*Q.* How do you account for this?

*A.* Because the winds bring with them a portion of the sea spray, and sprinkle it over the soil to a distance of many miles from the sea-shore.

*Q.* What is gypsum? (plaster of Paris.)

*A.* Gypsum is a white substance, composed of sulphuric acid and lime; it forms an excellent top-dressing for red clover, and also for the pea and bean crop.

40 lbs. of sulphuric acid and 28 1-2 lbs. of lime form 68 1-2 lbs. of *burned* gypsum.

40 lbs. of acid, 28½ lbs. of lime, 18 lbs. of water, form 86½ lbs. of unburned gypsum. Native or unburned gypsum loses about 21 per cent. of water when heated to dull redness, becoming burned gypsum.

*Q.* What name is given to limestone by chemists?

*A.* It is called by chemists carbonate of lime.

*Q.* Are there not many varieties of limestone?

*A.* Yes,—some soft, such as chalk,—some hard, such as our common limestone,—some of a yellow color, like the magnesian limestones, which contain magnesia,—some pure white, like the statuary marble,—some black, like the Derbyshire black marble, and so on.

Here it would be advantageous if the teacher could exhibit some of these or of other varieties of limestone.

*Q.* What is marl?

*A.* Marl is the same thing as limestone, namely, carbonate of lime, only it is often in the state of a fine powder, and often also mixed with earthy matter.

*Q.* What is shell sand?

*A.* Shell sand or broken sea shells is also the same thing, almost exactly, as common limestone.

*Q.* Can these marls and shell sands be applied with advantage to the land?

*A.* Yes, either as a top-dressing to grass lands, and especially to sour, coarse, and mossy grass,—or they may be plowed or harrowed in upon arable fields,—and especially they may be applied with advantage and in large quantity to peaty soils.

*Q.* Can they not be used also in making composts?

*A.* Yes, mixed with earth and vegetable matter, or with animal matter, such as fish refuse, whale blubber, &c., and even with farm-yard dung, they will often produce very good effects.

*Q.* How would you ascertain the presence of lime in a soil, or in a substance supposed to be a marl?

*A.* By putting a little of it into a glass and pouring upon it either vinegar or weak spirit of salt (muriatic acid). If any bubbling up (effervescence) appeared, I should say that lime was present.

## SHEEP ON THE PRAIRIES.—No. 3.

In Vol. 4, page 55, I promised to give your readers another article upon the above subject. Miserable health has been my excuse for this long delay in doing so, and being now a close prisoner from the same cause, in my house, will be my reason for saying a few words more at this time.

In my last communication I had brought the flock into winter quarters. Whoever has had any experience in the matter, knows how difficult it is to bring them in, in good condition, from the prairie grass. It is a fact that never must be lost sight of, that luxuriant as the grass is in the summer, and good as is the hay made from it, the fall feed upon the prairie is as poor as poor need be. And it is this that produces death among the new flocks, more than every other cause. To prevent this the first year, commence feeding grain in small quantities by the middle of October, and continue it until snow comes; at which time the sheep will readily take hold of the hay, which they will not do while they can pick up a scant supply of frost-bitten herbage. Oats in the sheaf, I look upon as very good feed for sheep, particularly where you have no other convenience than the bare ground.

Mark R. Cockrill, of Tennessee, whom I look upon as one of the best shepherds in the country, says he prefers corn for his sheep, and he always feeds it upon the ground. He selects some clean dry spot of sward, and sows the corn broadcast, and then lets in the flock to pick it up. In feeding hay, he follows the same course; never laying down the hay while the sheep are in the same lot. By this means the sheep never run over each other to get at the feeder, or get crushed under the sled or wagon if the hay is hauled out, as it always should be (a). Mr. Cockrill never confines his sheep, to make them "stand up to the rack, fodder or no fodder," but gives them a broad range summer and winter. He has one of the best flocks that I know of, which consisted when I was there last spring, of 1,400 head of fine wool, and 600 head of long wool. He also has a cross between the Cotswold and Saxon, which are most beautiful animals. I have some interesting notes of his flock, which I hope to be able to write out some day.

One of the first objects with the shepherd upon the prairie, should be to get a good stock of domestic grass for fall feed. A good substitute may be found in rye sown very early—say in August certain. I believe that blue grass will be found to be the most permanent pasture that can be made for sheep, and that it may be worked in upon the prairie by fencing small lots and yarding sheep, which will soon kill the wild grass, and then by sowing the blue grass seed, it will take well without plowing. As I before remarked, the greatest difficulty in our soft, rich, black prairie soil, is the mud. Great care must be taken in yarding sheep, both summer and winter, not to confine them in too small a space, as I know of no animal that has a greater antipathy to lying down in the mud, than a sheep; and no treatment more likely to procure disease and death. If your yards, where you usually feed and keep the flock, get muddy, you must move them, or they will die. Don't say that you have nowhere else to put them. You *must* find a place if it is a mile from home, and you have to haul your hay and camp with them every night for a month. I have proved by experiment, that sheep will do better *without* water than *in* water. Last winter while I was at the South, one of my neighbors who had taken 225 of my sheep upon a contract to keep for the increase of the flock, giving me the wool, lost one-third of them, as I believe, solely from keeping them in too small a yard, where for weeks at a time the poor creatures never had a dry spot to lie down upon. And I have been told that at times they stood in mud knee deep. Of course I took from this brutal man the whole of the increase, having no more mercy upon him than he had upon the poor creatures that fell into his hands; and I feel as though I did not punish him sufficiently at that time. Now, I fear, there are hundreds of just such flock-masters,—ignorant, stupid, unfeeling, and indolent. They shelter themselves and families, in a rude uncomfortable log cabin, through the cracks of which the winds sweep almost as freely as they do through the rail fence that forms the only shelter for their cattle, unless they choose to be located near some friendly grove; which is the reason that I have advised the new settling shepherd to seek such a spot, where the comfort and health of his flock will be greatly promoted by giving them the privilege of a stroll through the bushes, of a sunny day in winter.

Many excellent locations can be found where it will be very inconvenient to find a washing place. But let not this objection be considered an insuperable one. It is not a very expensive or troublesome matter to make an artificial washing place. Select some little rill, and excavate a place big enough to put in a vat 4 feet deep, 8 feet wide, and 16 feet long; and if necessary add other vats of the same dimensions. It is a mistaken notion that it is necessary to have clear and swift running water to wash sheep in; for it is a fact, that until the water in the vat actually becomes thick with filth, it will loosen the dirt in the fleece better than clean water. Even when there is no kind of a stream to construct the washing place in, it could be supplied from a good pump in a shallow well. In many places where sheep are washed in streams and ponds, they accumulate so much mud and sand upon the bank or on the road home, that the benefit of the washing is overbalanced.

"A penny saved is as good as a penny earned," is literally verified in shearing sheep. A good shearer will more than save his wages, over a slovenly one, besides the looks of the thing; for what work ill done, looks worse than an ill-sheared sheep? I say nothing as to the position of holding sheep while clipping them, for that is of little consequence, so that the fleece is kept whole, and rolled up in the most compact and neat manner, inside out, and tied tight with small strong twine. This is an important matter, and will well pay in the enhanced price of the clip, for extra wages to a careful hand.

If, as is often the case in newly settled places, you have no barn or other convenient building to work in, be sure and not commence your shearing until you have procured some large sheets of canvass—or coarse cotton drilling will answer—to lay down upon the ground to lay your wool upon to keep it out of the dirt.

Before sending to market, put up the wool in sacks, made of five yards each of stout tow linen, yard wide. Sort the fleeces, and fill each sack with those of equal quality as near as possible. If you sell the sacks with the wool, the buyer will always pay for them, and if he can ascertain the quality aright, without unpacking, will prefer to do so, and will be likely to pay about a cent a pound extra for your neatness and honesty.

A word more about filling the sacks, and I have done. Sew up in each bottom corner a bunch of wool as big as a goose's egg. Get a stout wooden hoop, made like a cooper's truss hoop, the size of your sacks, slip it over the top of the sack, and wind the cloth over round the hoop, and then have three ropes that will suspend the sack just clear of the ground, and at the end of these ropes iron hooks that will just clasp the hoop, which will keep the cloth from slipping off, and still be easy to cast loose. Let the packer get into the sack, and as the fleeces are handed to him, tread each one into its place, and you will be surprised to see what a quantity you can get in. When full sew up the mouth, and make two just such corners as at the bottom. These are the handles of the sack, and are very convenient.

Perhaps at some other time you may hear again from your "Old friend of the Prairies."

*Dec.* 10, 1845. SOLON ROBINSON.

(*a*) Our readers will recollect Mr. Cockrill is located in a mild climate, where little snow falls. The corn of that climate is not as hearty and as oily as it is here. Oats, peas, and beans, are undoubtedly the best grain for northern *store* sheep.

## THE YELLOWS IN PEACH TREES.

I AM under the impression that the disease called the Yellows, is generally supposed in this country to attack peach trees only, and to be peculiar to the United States, and that our writers have been contradictory, and far from satisfactory in explaining its causes; but that they have unanimously pronounced it incurable and contagious. From the following passage translated from the New Duhamel, vol. 6, p. 28, folio ed. 1815, it would seem that these opinions are incorrect

"The Yellows is a disease common to all trees; it shows itself by the yellow color taken by the leaves when they lose the beautiful green which belongs to each kind. Its effects are the unseasonable fall of the leaves; the drying up of the ends of the young branches; the scantiness and weakness of the wood; the smallness and almost abortiveness of the buds; the insipidity of the fruit; the general change of the sap; the languor and decline of the tree, and at last death, if timely care has not been taken to apply a cure. Its principal causes are a poor, worn-out, shallow soil, too dry and impenetrable to the rains; or a soil too cold or wet; or else one in which clay and subsoil are in contact with the roots. Its cause may also be found in cut worms, ants, and other insects, which take up their abode at the foot of trees. The cause being known, the remedy is easy, and that to be employed will be determined by the nature of things; thus, according to circumstances, it will be necessary to have recourse to manures, to waterings, and to trenching, in order to draw off the waters and cause them to flow, or to supply the roots with earth of a good quality. If the evil is caused by insects, it will be necessary to take measures for their destruction. If these proceedings have been seasonably adopted, and before the contagion shall have reached the roots, the trees will soon acquire their natural beauty and vigor."

My experience in the cultivation of this tree has by no means confirmed the views which American writers have taken of the Yellows. I am convinced that it is not a contagious disease, and that it should almost always be imputed to some quality or defect in the soil, which prevents the roots from imbibing the substance, which, when carried to the leaves, is there converted into the prussic acid with which the foliage of the peach tree is known to abound, and without which it cannot prosper. PERSICUS.

## SOUTHERN CROPS AND CULTURE.—No. 1

I KNOW it is impossible to persuade the planters of the cotton region especially, and I doubt not of your northern country also, that they have any interest equal to the present full crops. As I think there is, when I write, I give my convictions; I must therefore say what I think, which is, that a *proper management* of our land is of as much, if not more advantage in a general rule, than the making of *large crops*.

If a planter will exert himself to protect his land, he will gather for a life-time fair and remunerating crops; whereas, by the common careless mode of planting, he will make for five years good crops, the next five he will make ordinary, the next five still smaller, until within less than twenty or twenty-five years his crops will be so bad, that he is forced to extraordinary exertions in working his land, or to emigrate. Is this not so?

In much of our northern country, lime, marl, and manures are cheap; and conveyance is cheap. These things are demanded on account of the previous bad culture of the cultivators. Here, all these things are dear, but fortunately for us they are not needed—our soil being comparatively new, and where the surface soil is worn, the subsoil possessing all the requisites of a good soil. We have yet one more advantage, our winters are so much milder and shorter we can grow grain cheaper; and the cow-pea will grow among our corn without material injury. I have repeatedly referred to these facts, but they are in my estimation of so much value and of so easy application, that I must continue to allude to them even if I repeat " line upon line, and precept upon precept." The policy is, to protect land from the sun, from washing, and from the exhausting effects of cropping. Whether this can be done, and good crops gathered for 50 or 100 years, I will not dare affirm; but this I will do—much of our lands lying near to the water courses, and the flat lands in the western part of Mississippi, can be kept near their present state of product for many years.

We never remove corn-stalks from our land, as is done in many portions of the United States; many have burnt them off, as they do cotton stalks—these are therefore generally returned to the land. If the pea be sown among corn about the 1st of June, the vine will cover the land entire before the hottest of our summer be past, and if not fed off, will give a vast quantity of vegetable matter to the earth; these, with the corn-stalk, will nearly counterbalance the deterioration caused by taking off the corn and the fodder—and if we were to sow down in October, Egyptian oats or rye, on corn and cotton land, to be left on the ground until planting time, I feel certain that the washing rains of winter would do but little injury, and that the return to the earth would be ample. There can be no doubt as to the vegetable matter, and I presume there is a sufficiency of inorganic matter in our soils to last many years without any material injury; for we only export the cotton wool, having, you may say, all the balance to return to the land. What the intrinsic value of cotton seed is, taking stable manure as a standard, I cannot say; but I am fully convinced they ought to be used only as manure. I am satisfied as to feeding hogs with them, having tried them effectually. The experience of all men can never induce me to use them again. I have lost in twelve months full 60 hogs, that should now have netted me 12,000 lbs. of pork, and which I could now sell for about $500. I say not that my loss is entirely attributable to the seed; but I know that I lost some very choice mixed hogs, which were killed by the seed. As to feeding cattle with them, I am so doubtful, that I exclude my stock entirely. I would then only use them for manure. A brother planter of mine, who is devoted to planting, informs me that he has manured in the drill, and that the yield was about one-third gain, which, if only 300 lbs., would be $4 or $5 per acre; this for the first year; $2 to 2,50 for the second year; and $1 to 1,25 for the third, would be some 10 dollars per acre in three years. I would use enough to do permanent good, say about 100 bushels per acre, thus manuring about one-third of cotton land yearly, at a trifling cost. Thus far, the labor and cost is trivial, and all corn land and one-third of the cotton land has been manured. There should be enough rye, oats, and peas saved, to plant the succeeding crop. You have no conception of the quantity of grass that follows an oat or a rye crop, in this country, on fair land. I have no doubt but I could have cut a ton per acre, and then left a heavy aftermath to turn under. I know some *theorists* deny this—but that matters not.

To the above I would recommend at least half an acre be planted per hand of sweet potatoes, one-third to one-half of an acre with artichokes. I know that ordinary land, producing say 8 to 10 hundred lbs. of cotton per acre, will produce 1,000 to 1,200 lbs. sweet potatoes. My experience with artichokes is too limited to speak positively; but when we reflect that the leaves are large and hairy, that the product is from 200 to 1,000 bushels per acre, and that no portion of the crop is fed off from the land, the improvement must be certain. The stalk and leaves contain more alkali than most any other plant yields, and very largely of ashes. I have understood that some writer has determined—for himself—that sweet potatoes exhaust the land very much; all I can say to this is, I have assisted in planting them for 25 to 30 years, and have made up my mind that a good crop of sweet potatoes, leaving the vines on the ground, is equal to a good manuring.

There is yet all the manure from lots, stable, and hog pen to use, which, though small, yet will add somewhat to the general result. This can be vastly increased by hauling in leaves and corn-stalks. In addition to the improvement from manures, I would urge as equally important—rotation. A friend who dined with me this day, who was bred to farming, and who is no theorist, made confession of his conversion to the soundness of the doctrine. He was incredulous, and changed this year mostly through necessity. He says, though he was injured by worms and a bad stand, that he has made a better crop than he ever had before. If we will examine into the material taken up by some crops from the earth, we can see that there is sound reason in the matter. Let us take wheat and oats. Wheat takes up 19 per cent. of potash, and 20½ of soda; whereas oats require only 6 of the one and 5 of the other. If wheat be persisted in for several years, these alkalies must become scarce on farm lands; whereas, if a crop that would probably take less or restore a portion were planted, and the land allowed to grow up in grass or weeds, there would be some certainty of making other good crops. I have seen an *improved* crop of cotton grown on land after it had grown one crop of oats, which were fed off to hogs on the land.

Draining is another important addition. Many are prepared to pounce on this—" what! drain our lands here when we need so much moisture !" The advantage of draining much of our upland would be sure, in getting a stand of corn or cotton earlier; of its growing off earlier; of its ripening earlier; and in course of its needing moisture in midsummer, much less. But if the land be drained, so as to draw off the water that the earth cannot absorb, it cannot prevent the earth from retaining as much moisture; and from being less liable to being impacted by water, will really retain moisture longer—besides, the early shading of the land will retain it. By getting corn up earlier, and it growing off earlier, it can be laid by earlier, and thus we shall have more time to attend to cotton.

We lose too much time in fencing, and if we would adopt hedging with the nondescript rose, or the macrophylla, we could have time to labor much at other improvements. Just think of three-quarters of a mile of fencing per hand, and calculate the cost. Why, sir, the yearly cost would put in the ground a hedge, and one-tenth the expense would keep it up as long as we should live. Besides, timber is more scarce in some regions, and getting so in many others, which will cause an increase of expense.

I might say something of pasturage, of its saving of corn, of its ability to keep up stock, &c. But I am tired of writing, and I suppose my friends are of reading. I therefore close by subscribing myself,

*Edwards Depôt, Miss.* M. W. Philips.

## A DRILL CULTIVATOR AND MARKER.

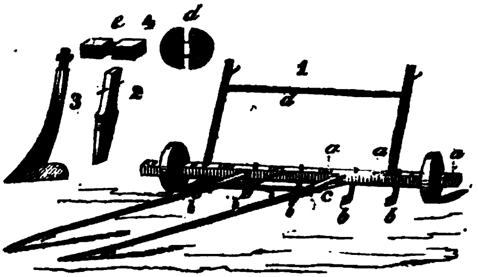
I have now at the Fair of the American Institute two implements, the one denominated a Drill Cultivator, and the other a Drill Marker and Vine Layer, of both which I believe myself to be the original inventor.

Having cultivated four acres of strawberry plants with these implements during the last two seasons, I will briefly describe the method of their use. In the first place, some slight inequalities in the surface of the ground were removed by a common road scraper for filling ruts. For marking the ground in drills I used the cultivator with the eight wooden teeth and the wheels. When sufficiently smooth and even, a line was extended on one side of the field, and a mark drawn by it for the outside tooth of the implement. It being then taken up, was stretched close on the ground, as a guide to the rider, where the horse should walk, to bring the outside tooth to follow the mark already drawn; and the process was continued, crossing the field back and forth until the whole was finished. The unexpected ease with which the implement was managed, surprised me, and I was not a little gratified to find that none of the many present could distinguish those marks in which a tooth had returned. The guiding is rather a nice matter, yet by no means difficult, much less impracticable, as had been predicted. It requires, however, a *slow* horse and a *careful* rider.

Another objection was, that the horse would injure the plants by treading on them; but the injury really sustained is found to be of little or no consequence. Strawberry vines, when trodden down, will rise again like grass. The implement is regulated by one of the handles only, usually the left. The holder, walking behind the wheel, grasps the pin of the handle with his right hand, which is brought to rest against the thigh, a little below the hip, and the upright part with his left. The reason for holding it thus will be understood, if it be considered that the shares will run at the depth the wheels will allow, and no deeper, without the least attention on the part of the holder, and that nothing remains for him to do but to prevent the implement from tending to the right or left. If the shares run too deep, an addition is made to the circumference of the wheels by sheet iron bands or otherwise.

In estimating the effort required to govern the machine, it should be recollected that the *slightest* force may *change the direction* of a moving body, such as would have no perceptible effect upon it in a state of rest. In the position of the holder above described, the effort is not so much confined to the arms as otherwise it would be, and actually causes no more fatigue than ordinary plowing. This implement is evidently not adapted to uneven or stony land; and where these difficulties exist to such an extent as not to be easily remedied, it will be better to avoid them altogether, by adopting other modes of culture.

That *strawberry vines* are not materially injured by the feet of the horse I have proved by experiment; whether if the implement were used for turnips, beets, &c., this objection would be valid, I cannot say; but should venture to presume that the damage, if any, to single plants, here and there, would be much more than compensated by the saving of labor and other advantages. For these crops, it is suggested, that three harrow teeth, set at three inches apart, would be a very good substitute for one of the shares. With this alteration the wheels might be unnecessary.



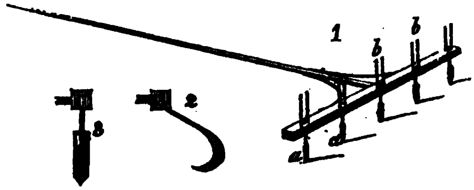
Drill Cultivator.—Fig. 21.

*Description.*—*b b b b b*, Shares to run between the drill. The wheels are about one foot in diameter. 1, *d*, A cross-bar, connecting the handle; 2, a wooden tooth, of which there are eight belonging to the implement, to be inserted at *a a*, &c., one foot apart, for marking out the ground. For this purpose, however, the marker mentioned below might be substituted. 3, The share or tooth formed like a coulter, and bottom piece without a mould board. It is laid with steel and made sharp. 4, The wheel *d*, in halves, and the manner of applying it to the axle *e*, by bolts and screws. To the under side of the axis is nailed a piece of sheet iron or tin to diminish the friction of the wheel. *c*, A brace fastened at one end by a nut to the bolt passing through one of the thills and cross-piece, and at the other to the axle.

The other implement, the Vine Layer, is almost indispensable for cultivating strawberry plants in drills. The plants are, at first, set in the drills, about two feet apart, in holes made for them by a sharpened stick. Should any fail to live, their places may be ascertained by the marking side of the implement, and again supplied at any time, although the original marks may have become obliterated.

When the vines have commenced running, and *before* the young plants have taken *root*, the vine layer is drawn lengthwise of the drills, each pair of pins including between them the several plants. The operation may be deferred so long as the surface of the ground is dry, for not a plant will strike its roots; while the larger and heavier the young plants become, the more sure are they to remain where the implement leaves them. Repeat the operation throughout the season, as often as necessary, always drawing the implement in the *same direction.* If a few plants that have become a little rooted in the drills are torn out occasionally, it is of little importance, it being the general good of the whole that we have in view. Continue the use of this implement until the plants are as thick as possible in the drills, and about two inches in width. The plants will thus cover the ground beneath them, and almost entirely prevent the growth of weeds and grass. To confine the rows afterwards to the required width, *blades* are set in the implement in *place* of the pins, to cut off the runners as they grow. The shares of the cultivator will do this, but not so accurately. To avoid injuring the leaves of the plants in the drills, the blades are formed by flattening out the lower end of a pin similar to the others, making it a little *hooked,* and so setting it, that the vines will readily slip on the cutting part.

As a horticultural implement this may answer not only for laying out strawberry beds and turning their runners, but at the same time as a marker for all sorts of beds.



Drill Marker.—Fig. 22.

*Description.*—*a a*, Teeth or markers, set one foot apart. *b b*, Pairs of pins about 6 inches in length round and smooth, inserted on the opposite side to *a a*. These pins are two inches apart, and are set one foot apart, exactly opposite the markers on the other side. 2, Is a blade for cutting off superfluous runners. 3, One of the teeth or markers formed of wood, fastened to the head of the implement by an iron pin.

In this implement I make no claim to the invention of the markers, any further than their combination with the blades and pins; they are merely incidental, and the implement would be complete without them. Philetus Phillips.

*Middletown Point, N. J., Oct.*, 1845.

## METHOD OF FASTENING HORSES.

I observe in the January No. of your paper a sensible article upon the Stable, yet not in full accordance with my experience and opinion. You recommend tying the horse to the front of the stall, passing the rope through a ring with a weight on the end. Many horses cannot endure a pressure on the head, back of the ears, as is observed in a case of what is called *fits* or *blind staggers,* when produced by having the check rein buckled tight, and the horse warmed by a sharp drive, the veins become enlarged, and the pressure of the headstall upon the vein, back of the ears, retards the circulation, and the horse is in great distress, when by removing the check rein and headstall, relief is immediate—consequently the vein should be left free, or with no extra pressure.

My plan is to have a ring in the back of the manger, about as high as the horse naturally holds his mouth, giving length for him to reach for food in all parts of the manger or box, and when lying down the head cannot touch the ground or bottom. The horse rarely stretches himself out and places his head flat, except when a hot sun is practising mesmerism upon him. The danger to be avoided is permitting the horse to stretch himself out in the stall, and to endeavor to roll. This he usually will after a drive, when warm, as his skin itches, and he rolls to allay the pricking. If the halter is long the chances are he gets cast, and, if in a bad position, the owner has the satisfaction the next day of helping him out of the stable, never to return. By tying to the front of the manger you cannot give length sufficient to enable the horse to reach food in all parts of the manger, without incurring the risk of his putting his head on the ground and attempting to roll. By tying to the back of, and across the manger, there is no risk of the horse getting his foot over the halter, a common accident when tied in the old way. S Y.

*Oyster Bay, Queens Co., Jan.*, 1846.

We deem our correspondent's plan quite objectionable. If the halter be long enough to permit the horse to lie down, he may as well be tied to the front of the manger. If he be tied *short* to the back of the manger he cannot lie down at ease; his head must be quite elevated. When he lies down, no pressure will be brought on to the poll, but all on to the *jowl.* But pressure on the *poll* does not impede circulation; on the throat it does. If the halter be loose and the horse be tied short, pressure may, and most likely will, be made on the jugular vein, and the difficulty apprehended by our correspondent may occur. Now with a weight, when the horse is standing, no pressure is exerted, as the weight rests on the bottom of the manger. When he backs or lies down with his head on the floor, the weight is raised. A very light weight will keep the halter straight, and from under the horse's feet; and if light, the horse can lay his head down, and the head's *mere weight* will be enough to hold the weight suspended, and no muscular force need be exerted for that purpose. Our correspondent's plan prevents the horse from being halter cast, but it does not permit him to lie at ease. Our plan does both—and the weight only is held up by the head when the head is flat on the floor. Our experience is too long to permit us to doubt the goodness of our plan.

Horses will constantly, day and night, in sunny and in cloudy weather, lie flat down with the head on the ground or floor—give them a chance and they will do it whenever they lie down. With a tired horse, it is absolutely necessary that he should have full rest, to recover soon. If he can lie flat down, he can rest more perfectly. The weight should be so arranged that the halter rope is always straight, and should never press on the head except when the horse backs in the stall or lies flat down. This at once prevents all chance of the horse being halter cast; and yet permits perfect rest.

## FARM AND VILLA OF MR. DONALDSON.

Within the past ten years, there has been quite a revolution in the Northern States with respect to country life; it is now rapidly assuming here the rank it has so long held in Great Britain, and in some parts of the Continent. In England, especially where the love of rural pleasures pervades all classes, the most affluent and noble of the land seem to consider their town houses as merely temporary accommodations during the whirl of the fashionable season, and the sitting of Parliament, after which they fondly return to their ancestral castles, where for many gēnerations all that wealth, taste, and skill could contribute, have been accumulating to make their homes desirable. The opulent merchant, too, as soon as the hour on 'Change permits, seeks his cherished suburban villa; and even the toiling mechanic and pent-up tradesman look forward with impatience to the period when they shall escape from the din, dust, and vexation of the city, to enjoy the pure air, fresh verdure, and blooming shrubbery of a cottage. Too much of the wealth of this great and growing Republic is lavished in the finery of town houses; and how often do we see gentlemen, after securing ample fortunes, still pursue, amidst the turmoil and heat of the city, the dull routine of business, as mechanically as if on a treadmill; with countenances seamed with care—often prematurely sinking into haggard dyspeptics, when they have within reach the ever varying and refining pursuits of the country, where their health may be renovated, after the wear and tear of city life, and their children receive that best inheritance, the *mens sana in corpore sano*—health of body with health of mind.

We hail with pleasure the evidence of an improving taste in country life in America; but above all, bringing the various sciences of chemistry, geology, botany, animal physiology, &c., to the aid of the farmer, and making them his efficient handmaids. Even sublime astronomy has at length become subservient to agriculture. The celebrated philosopher Arago, was enabled to predict in Europe the severe winter of '44 and '45 in time to prepare against its rigor. How much expense and suffering would have been obviated, could the wide reaching drought of last summer have been foretold! With these explanatory suggestions, our readers will perceive why we occasionally visit and describe highly improved places. We anticipate much good to agriculture from gentlemen of wealth and leisure; indeed, they are its most liberal patrons. We cite one evidence of this. A few persons in this city have recently contributed nearly $10,000 for the importation of Alpacas from South America; and we hope soon to see a subscription on foot, for establishing an agricultural college where farmers' sons may be properly educated for their profession, and be taught to follow it through life with the same pride and pleasure as did the good and great Washington, who emphatically pronounced it "the most healthful, the most useful, and the most noble employment of man."

Blithewood, the residence of Robert Donaldson, Esq., is situated in Dutchess County, on the Hudson river, about a hundred miles above this city. It was formerly the seat of General Armstrong, of Revolutionary memory, who was Secretary of War under Mr. Madison. Though the author of several useful works on practical Agriculture and Gardening, Gen. Armstrong will perhaps be better known hereafter by his celebrated Newburgh Letters, addressed to the Army of the Revolution, when about to be disbanded by Gen. Washington. An interesting relic of the early days of our Republic was recently brought to light at Blithewood, by the removal of a partition wall. We annex an engraving.

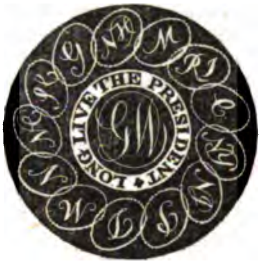
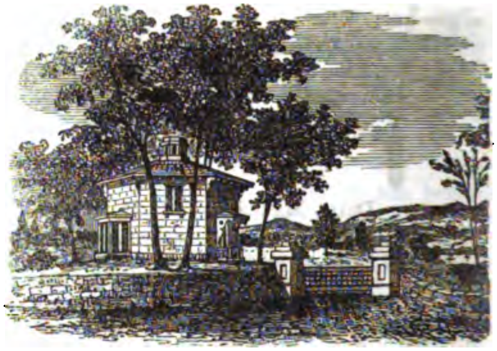
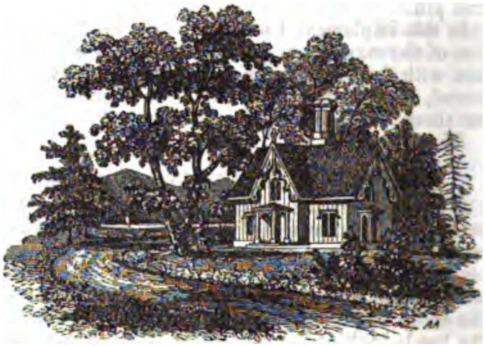


Fig. 23.

It is a large copper button, supposed to have been worn by the officers of the army, and evinces their great attachment to Washington. The motto, "Long live the President," encircles the letters "G. W.," and the whole inscription is embraced by a chain in each link of which is the initial letter of one of the glorious old Thirteen States of the Revolution.



Gate-Lodge.—Fig. 24.



Gardener's House.—Fig. 25.

To visit Blithewood, we landed at Barrytown, two miles below, and in approaching it, the gate-house or lodge (fig. 24) was the first object tha attracted our attention. It is a hexagonal brick building, stuccoed and colored in imitation of freestone; and strikingly placed on a terrace in the midst of a group of forest trees, it is no less ornamental than useful. An excellent macadamized road leads through the estate from the lodge to the mansion.

Soon after entering the gate, we lose sight of all boundary walls and fences, and pass the gardener's house (fig. 25). This is in the Cottage Gothic style, and with its pointed and projecting gables, and miniature porch, covered with honeysuckles and Boussault roses, it has a very neat and pretty appearance.

Approaching the house, the road winds among white pines, through which may be seen the graceful slopes of the grounds, and the noble masses of wood. The view which is disclosed, as you sweep round to the river front, assures you that nature has been lavish of her beauties here. Our readers will get a very good idea of the view presented at this point by looking at the frontispiece to Downing's Landscape Gardening and Rural Architecture.

The Kaatskill mountains, on the opposite side of the river, reach a height of nearly 4,000 feet, and the range may be seen for fifty miles, clothed in the enchanting hues that distance ever lends to bold mountain scenery. The unusual width of the river here—the wooded isles—the promontories, with their quiet bays—the spires of the neighboring villages—the Mountain House—all combine to form a landscape of extraordinary attraction. The scenery along the Sawkill, which forms the southern boundary of this place, reminds one of Trenton Falls. The stream descends in cascades and rapids, 150 feet in a quarter of a mile. A lake has been formed about half way up its course, through the estate, the placid waters of which contrast finely with the rushing cataracts.

By an overshot water wheel which could be made ornamental, and a simple hydraulic machine, a portion of the water of this stream might be forced up to the adjoining height, and thence conducted to the house, garden, stables, and cattle yard; it might also be made to irrigate the grass land, and to form fish ponds, and *jets d'eau*.

The dwelling house is 160 feet above the river. It is a low, but most commodious structure, embosomed in trees, stuccoed and colored in imitation of freestone, with a deep verandah on three sides, and a boldly projecting and richly bracketted roof; and whatever may have been its original plan, it has been so enlarged and transformed by its present owner, as to present a most inviting aspect. The interior is very tastefully arranged; but on this we cannot enlarge, and confine ourselves to a description of the picture room—an apartment on the river side of the house, 16 by 32 feet, of a high pitch, and receiving its strongest light through an ornamented sash in the ceiling. In this choice, though limited collection, there are the Picnic Party in Epping Forest, by C. R. Leslie; a Landscape, by John Both; the Billet Doux, by Terburg; the Lute Lesson, by Gaspar Netcher; a most lovely Madonna and Child, supposed to be by Luini; the Physician and Invalid, by the elder Palamedes; the Benevolent Family, a highly finished painting, by a Flemish Master; together with some portraits by Leslie, and some carefully made copies of well known pictures. But more striking than all these is the *Landscape Window*, a novelty introduced by Mr D., which quite took us by surprise. It is an oval plate glass, 3 by 4½ feet, inserted in the wall, and surrounded by rich mouldings, in imitation of a picture frame. One feels that the natural beauties here revealed surpass even the glowing composition.

Walks lead away in the most alluring manner, for two miles, through the varying scenes of this place, along which rustic seats and pavilions are placed, at the best points of view. We give a view of one of them on the Sawkill (fig. 26).

The spring house, which is in course of erection, on the verge of the spacious lawn, will be very ornamental. The water flows through a water lily, into a sculptured shell, from the scolloped lip of which it falls as from a dripping tazza.

The garden, which is in the geometric style, though near the house, is concealed by hedges and shrubbery. The upper plateau is devoted to fruits and flowers, and the terraces are given up to vegetables. The green-house and fruit houses, 90 feet long, are so arranged as to present a very handsome architectural appearance. Besides a great variety of foreign grapes, the fig, apricot, nectarine, plum, and peach, are grown in these houses as espaliers, and dwarf standards.

Ravine Walk—Fig.. 26.

*The Farm.*—This comprises 125 acres. The soil varies from a sandy to a clayey loam. Parts of the outer lots, where the subsoil was so adhesive as to retain the surface soil, have been subdrained with the small stones gathered from the surface. These lots can now be worked at the earliest opening of spring; and though forming a very sa perior soil for grass; they yet yield very heavy crops of small grain. As an evidence of this, although the season of '45 was very unfavorable to oats, we here saw a lot which turned out 50 bushels to the acre. Since acquiring possession of this place, ten years since, Mr. D. has doubled the crops; and though he has occasionally used alluvial mud (*limed*) from the Sawkill, as a topdressing, and also plaster and ashes, and applied guano and poudrette to the hoed crops, with satisfactory results; yet his main reliance for keeping up the fertility of his place, has been the barnyard. To this place all weeds, fallen leaves, butts of cornstalks, and offal of the farm, are gathered, and through these the wash of the barnyard leaches. We think Mr. D. has gone through unnecessary trouble and expense in plowing in manure on the slopes and banks to get them into grass, instead of pasturing South-down sheep, which might easily be done in hurdles. The growth of the sheep would in a single season defray the expense of the arrangement, and the sod would be left by them, topdressed and fertilized in the simplest and most efficient manner. We have often seen flocks of sheep pastured for this purpose on the lawns of the finest estates in England.

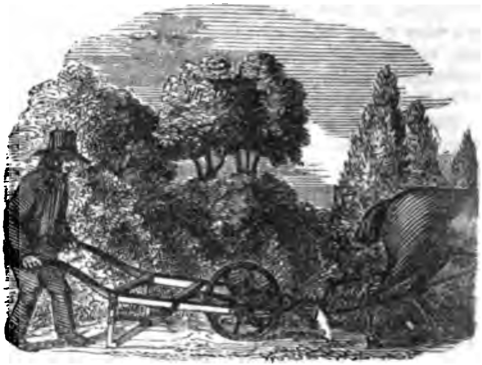
The farm-buildings are judiciously placed near the centre of the land, and well constructed for sheltering the cattle and saving the manure. The boundary walls are well laid, and the expense and unsightliness of cross-fences have been greatly avoided by soiling most of the cattle.

In stock Mr. D. has confined his attention to rearing a herd of milch cows, having with considerable care and expense selected the best milkers among the native cows that he could purchase, which, with one or two Ayrshires, he has crossed with his imported bull, Prince Albert, a noble Durham selected for him with much judgment, by his brother, Mr. James Donaldson of this city, when in England in '41. Among the cows there is a most extraordinary animal, called Kaatskill, from her native mountains. She shows a dash of Holderness blood in her veins, though she is supposed to be a native. We conversed with her former owner, Mr. Hendricks of Red Hook, who assured us, that this cow had, while in his possession, given 38 quarts of milk per day, on grass-feed alone; and had made 18 1-2 lbs. butter in one week. On two of the days the butter weighed 6 1-2 lbs., and had not a spell of unusually hot weather ensued, which prevented her from feeding well, she would doubtless have made 22 lbs. of butter in a single week. This cow received the first prize of the New York State Ag. Society, at their annual show of 1844, as the best dairy cow exhibited.

We could say much more of Blithewood; but should any of our readers chance to visit it, they will feel how inadequate words are to convey an idea of its varied scenes, some of which are worthy the pencil of Ruysdael or Claude.

*Stucco.*—We thought the Stucco used by Mr. D. in his buildings of a superior kind, and copied his recipe for making it. Take pure beach sand, and add as much Thomaston lime as it will take up, then sufficient hydraulic cement to make it set, say about one-fifth of the whole mixture of sand and lime. To prevent the cement attracting moisture, put a strip of sheet lead or zinc as wide as the foundation of the building over it, then lay up the walls. The walls should be *hollow*, as they are stronger than solid walls, and they save nearly one-third of the brick. The finishing plaster can then be laid on inside without the expense of furrowing out and lathing, as hollow walls are always dry. The stucco is also more lasting and not likely to peel. The stucco can be painted a handsome fawn color by dissolving burnt ochre in *sweet* milk.

We saw here a most useful labor-saving machine, first introduced at Mr. William B. Astor's villa, for cleaning gravel walks. With this, a man, a boy, and a horse, may do the work of twenty men. We here annex an engraving of it. It is very simple in its construction, and costs about $10.



MACHINE FOR CLEANING GRAVEL WALKS.—FIG. 27.

Mr. Downing has kindly permitted us to make casts of the illustrations above, from the cuts executed for his "Landscape Gardening and Rural Architecture," a work which we cannot too highly and too often recommend to the public.

## SCRAPS FROM MY NOTE BOOK.—No. 2.

*The Cherokee Rose Hedge.*—South of Natchez, for miles, I rode between continuous lines of hedges of the "Cherokee, or nondescript rose," then, March 1st, in full bloom, of pure white fragrant flowers, single, with bright yellow centres, and rich bright green foliage, that gave the whole a most lovely appearance; but the beauty of the scene was greatly marred by the fact that blossoms and foliage could not disguise that the whole was in a most slovenly state of keeping; for the long straggling runners have grown up some ten feet high, and bend over upon each side, till the fence is often 25 or 30 feet wide, and owing to the hardness and sharpness of the briars, is as impenetrable as a stone wall for all kinds of stock, negroes included.

Dr. Phillips and Mr. Affleck, who were my travelling companions, assured me that a good fence could be made in four years from the cuttings of this plant, and that by proper attention every year, it can be kept within reasonable bounds. I did not, however, see an instance where it was. I saw many places where the runners had climbed up some convenient tree at least thirty feet.

To get a fence started is a very easy matter, as it is only to take those long runners and cut them up with a hatchet on a block, into slips about a foot long, and lay these in a furrow, with one end out, and tread the earth down tight; it will be a rare thing if they fail to grow. Though, whether from failure to grow, or from being killed by frost, or something else, I observed in all these hedges, the same unsightly gaps that mark nearly all the live fences in the United States. These frequent gaps in the hedge are filled up with one, two, three, or perhaps a dozen pannels of rail fence, and in the joining together of the live and dead fence, holes are very apt to be left, through which that animal which *strange* man permits to run at large, to the eternal torment of himself and neighbors, will be very likely to insinuate his porkship about " roasting ear time."

" But why don't they fill up these gaps with new sets, if it is so easily done?"

Exactly the question that I will answer after the most approved Yankee fashion, by asking why we are not civilized, Christianized, rationalized enough to enact laws, or rather to repeal all laws, all over the Union, that compel one man to fence against every other man's cattle, some of which nothing but a Cherokee rose hedge would stop, and even that must be free from gates, bars, or gaps? And again, " if this hedge can be kept from spreading so as not to occupy four acres of land in every mile of length, and it makes such a beautiful as well as efficient fence, why is it not more extensively used?

Exactly the other question that I will answer after the same approved fashion, by inquiring why you—" *what me?*"—Oh, yes—you are the very man I mean—I want to inquire if you love peaches, apples, grapes, and other fruit? " Why, certainly." Well, the hedge is not planted just for the same reason that you have never planted fruit trees and vines.

" And how far north will this rose flourish?" I cannot say; but I believe that it would be dangerous to rely upon it north of latitude 33°. Major Green, of Madison County, latitude 32½°, told me that he had 60 or 70 yards of Cherokee rose hedge growing very thriftily around his yard, in the winter of 1831-2, and nearly the whole of it froze to death. In the spring he cut it all off, and but here and there a sprout came up. His house stands on a high piece of ground—the soil, reddish yellow clay—timber, mostly black oak, rather scrubby. Whether this has any influence, or whether this plant will answer for fences further north, I cannot say; but I do say to those living further south, it is well worth your attention, and you ought to try it forthwith. And as your paper, Mr. Editor, circulates so extensively at the South, if some of your southern correspondents would give you an article every month upon this subject, it would not be too much of a good thing. It is also worth the trial whether the " Michigan Rose" will answer a good purpose at the North for hedging.

Here, upon the prairies of the North West, where *it is supposed* there is no timber, fencing material is altogether too plenty and cheap to think of using hedges yet awhile. But as we contrive to burn up what rails we have once a year, we shall soon come to the necessity perhaps. Solon Robinson.

We regret to say that Mr. R. continues so ill that he will be obliged to give up his tour South this season, but we hope to see him there next winter.

## PEACH AND NECTARINE TREES ON PLUM STOCK.

In England and some other parts of Europe, where the atmosphere is surcharged with moisture, and the power of the sun's rays is so feeble that it causes but a moderate development of growth, and but an imperfect maturity of the wood on trees of great vigor, it has been found advantageous to curtail or diminish the expansion of the peach, nectarine, and apricot, by engrafting them on the plum, which is a tree of less sap and of much slower growth. The result of this practice is, that as the plum furnishes so much less sap to support the development of wood, the growth is retarded, and the expansion of the tree greatly diminished. This practice has also been applied to the pear by engrafting on the quince, the hawthorn, and the mountain-ash; and to the apple by engrafting on the paradise dwarf stock, and on other species similar in character. The effect of this cause is precisely like unto limiting the development of an animal of gigantic race by an allowance of only that quantum of blood which nature allows to a dwarf or diminutive one; and the final result is as might be expected, not only the curtailment of dimensions, but the shortening of the natural period of existence. All the trees, therefore, to which this dwarfing process is applied produce their fruit the sooner, as they sooner attain an unnatural maturity. They are also much smaller and shorter lived than such as are propagated in the natural way, and engrafted on stocks of a similar and congenial character. Wm. R. Prince.

*Prince's Lin. Gard. and Nurseries, Flushing.*

Stump Machine.—This machine consists of a circular square or oblong cap, supported by three legs, and has a hole through its centre perpendicularly, sufficiently large to admit a screw of suitable size. The length of the screw depends upon the distance the weight is to be raised, or the object to which the machine is applied. The nut rests upon the top of the cap, where iron or steel washers should be placed, to prevent too much friction. The nut is turned by a lever being attached to it, the length of which will depend upon the purpose to which the machine is applied. A horse will raise forty tons when attached to a lever twelve feet long, and lead himself around the machine by a pole from the sweep near the nut, reaching just forward of the horse, and the machine can be moved from place to place by one or two men. The convenience of the improvement consists in the application of the lever and screw in the manner, and to the purposes mentioned.

Analysis of Marl on the Hudson.—We have often spoken of the immense beds of marl lying on the Hudson river above the Highlands. The following is an analysis of a specimen made by Mr. Jas. J. Mapes, for Frederick F. Betts, Esq., of Newburgh.

| | |
|---|---|
| Carbonate of lime, | 63.34 |
| Woody fibre, moss, and decomposed veg. matter, | 7.92 |
| Sand and earthy matter highly colored with iron and magnesia, | 16.66 |
| Iron, alumina, &c., | 5. |
| Water, | 5.42 |
| Loss, | 1.66 |
| | Parts 100. |

## EXPERIMENTS WITH CORN.

I PROMISED last summer to furnish you the results of some experiments in which I was then engaged with different manures on corn. The excessive drouth of the season undoubtedly affected the results materially. Yet, as we have small reason to suppose the past to be the last dry season, they may be as valuable as though the economic result had been more favorable. It is not any single result, but the average of many that must be our guide. The experiments were all conducted under my own eye, and with all possible care and exactness. The ground covered by the different manures, varied from one-tenth to three-fourths of an acre, and was of an uncommonly uniform character. The different manures were applied side by side, in strips through the whole length of the field. I have reduced the whole to acreable results, in bushels of 56 lbs.; the grain was shelled in January. The loss in weight on the sample measures, from the last of October, when husked, to the first of January, when it was shelled, was 22 1-2 per cent., on the gross weight, being in accordance with the results of previous experiments. I should state that experiment No. 1 (covering 3-20 of an acre) included the outside row on the north side.

Field No. 1, soil a free loam, in places gravelly; subsoil sand and gravel. In 1841, in corn; 5 cords half-rotted stable manure plowed under; seeded to grass in spring of 1842 on winter grain. Top-dressed with 25 bushels ashes per acre; again in '44, with 3 cords of compost. Average yield of hay 1 ton per acre. April, 1845, sod inverted 8 to 10 inches deep; rolled and harrowed. May 12th, planted with white flint corn, 4 by 3 feet apart.

| | | | | | |
|---|---|---|---|---|---|
| No. 1. | 1 acre, | no manure | | | 25 50-56 bushels. |
| | | TOP-DRESSED AT FIRST HOEING. | | | |
| " 2. | 1 " | 5 bush. soot, 2 1-2 do. plaster. | Cost $1,25. | Gain 43 lbs. | 26 37-56 " |
| " 3. | 1 " | 15 " unleached ashes. | " 2,00. | " 49 " | 26 43-56 " |
| " 4. | 1 " | 15 " hen manure, *a* 12 1-2 cts. per bush. | " 2,00. | " 332 " | 31 46-56 " |
| " 5. | 1 " | 15 " Poudrette (Minor's), *a* 50 cts. per. bush. | " 7,50. | " 353 " | 32 11-56 " |
| " 6. | 1 " | 200 lbs. Peruvian Guano, *a* 2 3-4 cts. per lb. | " 5,50. | " 363 " | 32 21-56 " |

The hen manure was scraped up from the floor (of earth) of the hen-house from time to time, and contained considerable sand, &c. .................................... 4 3-12 "

Same field adjoining the above on south side, sod inverted, rolled, harrowed, and 8 cords of half-rotted stable manure harrowed in, planted as before.

| | | | | | |
|---|---|---|---|---|---|
| No. 7. | 1 acre. | Stable manure alone | | | 42 10-56 bushels. |
| " 8. | 1 " | " " and 15 bush. unleached ashes. | Cost $2,00. | Gain 80 lbs. | 43 34-56 " |
| " 9. | 1 " | " " " 15 " hen manure. | " 2,00. | " 373 " | 48 37-56 " |
| " 10. | 1 " | " " " 20 " Poudrette. | " 7,50. | " 494 " | 50 46-56 " |
| " 11. | 1 " | " " " 220 lbs. Guano (Peruvian). | " 6,50. | " 534 " | 51 30-54 " |

Your readers can draw their own inferences as to the economy of the different applications. The stable manure costs, spread in the field, $3,00 per cord. The concentrated manures are charged, likewise, at their cost in the field. L.

*Rahway, New Jersey, January, 12, 1846.*

## STINGLESS BEES.

I LATELY noticed among the exports of Campeachy, wax, the produce of wild *stingless* bees; this reminded me of a notice I had once seen of a hive of *stingless* bees sent to Dr. Mitchell. The following is the notice alluded to, being an extract of a letter published in the New York Evening Post in 1830, from Henry Perrine, Esq., U. S. Consul, dated San Juan, Baptista de Tabasco, Mexico, July 20th, 1830, to Samuel E. Mitchell.

"I send you by Capt. Powers, of the schooner Washington, a hive of stingless bees, which you may dispose of as you think proper." Dr. Mitchell then says: "The bees have arrived in a lively condition, and though they were received only yesterday (Sept. 1st), are now making their excursions to and from their habitation with great vivacity. Their dwelling place is a hollow log, part of a natural excavated tree, in which these little creatures delight to live. The little swarm, after having been released from its imprisonment, came forth, and the members visited the flowers of the contiguous garden. It was observed as a proof of their economy, that after being immured during the voyage, the notable insects came forth loaded with the remains of their deceased associates, or with some excrementitious or foul matter. They thus seemed intent on clearing their house. A hole in the side of the log, about three-quarters of an inch in diameter, answers the purpose of the entrance as a common hive. They are not so large as the common honey bee; but they have a neat aspect for an insect. As they are such harmless little creatures, it would please me very much to get a swarm of them. But I fear the number is so reduced, that it will require an apiary-man of more skill than I possess, to take the best care and make the most of them. I wish such a person would present himself, and take the colony under his protection. Something novel and curious at any rate—perhaps something useful might arise from it? An entomological description is desirable, but this must be postponed, on account of its nicety and difficulty, until a future day."

If Mr. Mitchell made an entomological examination of this interesting little insect, I never had the good fortune of seeing it published; indeed, since the publication of the above, I have not seen the little Colony in any way noticed. Dr. Mitchell died in September, 1831, and I should think it almost *certain* that he *left* an entomological description of the insect. The probability is that this little colony, by being so much reduced, or by the severity of our climate, did not survive through the ensuing winter.

Will not some of our enterprising ship-owners in the Mexican trade, cause to be sent to this country a few hives of these stingless bees, as there is much more attention paid and interest felt for bees in the United States now, than was in 1830? I have no doubt they can be placed under the care of competent apiarians that would watch their habits and wants; and if our climate should at first prove too severe for them, they should be placed in a green-house to winter, where they would be an interesting and harmless appendage to any gentleman's collection of green-house plants. Their introduction would be only second in interest to the introduction of the Alpaca, which I am glad to see you so much engaged about. HENRY WATSON.

*East Windsor, Jan.*, 1846.

## GROWING WOOL.

THE growing of wool is one of the most interesting, pleasant, and profitable employments. Our resources and natural advantages for wool-growing are not surpassed, if equalled, by those of any other nation. With us, as a nation, the business is yet in its infancy, as well as the manufacturing of the article. The quantity raised is annually increasing, and expensive establishments are continually springing up in various sections of the land; and it is reasonable to suppose that the time is not far distant when the skill, enterprise, and perseverance of our people, will enable them to compete with the world in the manufacturing, as well as growing, of this important staple. Our wool and woollen goods will ere long find their way into the various markets of the world, as our cotton and cotton goods have at the present time.

The sale of wool depends much upon the manner in which it is prepared for market. It should be thoroughly washed, and no dirt of any kind tied up in the fleece.

For washing I prefer a clear stream, with a gravelly bottom, it being free from either sand or mud. Each sheep should be thoroughly soaked in the water, and then suffered to return to the land; then they should be thrown in again and the washing completed. I have never known this practice to injure the sheep, and the washers are more apt to get the wool clean than when they are thrown into the water but once. After washing they should not be driven on a dusty road, while the wool is wet. They should be kept in a clean pasture until shearing, which should take place in from four to eight days after the washing. If they run beyond this length of time, the wool will get dirty, and the prospects of making a good sale are thereby lessened. The fleeces should be tied up in a compact, regular form, and packed away in as neat and orderly a manner as possible. The wool should be kept in the dark, as its exposure to the light will in a few days give it a yellow color. G.

*Salem, Jan.* 20, 1846.

BUCKWHEAT CAKES.—You gave a method of making with soda and acid. These are not in every farm house. Here is my method. If you wish to have them made in five minutes, take some saleratus or pearl ash; dissolve it and put it into the batter, when mixed; stir well, and then pour in some vinegar; effervescence will at once commence, and directly the batter will be light, and may be baked. The cakes will not be as good as if raised with yeast, but will be good. When the batter has been put to rise with yeast, and does not, put in some saleratus or pearl ash and vinegar, and soon the cakes will be light. T.

## CASTRATION OF CALVES.

I WAS for a long time troubled about having calves altered. My family have bred cattle for sixty years, and yet always employed a man to castrate all the males that were made steers. I submitted to this inconvenience myself for a long time. At length I was forced by chance into the performance of the operation myself. I soon found there was no mystery about it.

A calf that is to be altered, should undergo the operation as early as possible after being dropped. Throw him down and let one person hold him; he need not be tied. Have a *sharp* knife—a pen-knife is the best. Press the testicle down into the bag. Cut through the skin on the back or front side, to the testicle; pull the testicle out of its sheath and draw it out, until the cord which attaches it to the body is some way out of the body. At about two inches above the testicle in the calf, the cord is quite small, and enlarges as it goes up. Cut the cord at the small part; it will at once draw back into the sheath. Do the same to the other testicle, and let the calf go.

If it be a bull that is to be altered, the best way with him is to put him in a narrow stall and tie his head *fast* and *close* to the manger; put a rope round his neck and pass it down, and make a noose about each hind leg between the forelegs, and draw his hind legs well under him, and fasten the knots. So fixed he cannot move. His testicles will hang down, back of his legs. Take the knife and make an incision on the front or back of the testicles; cut through to the testicle; draw it out until the small part of the cord appears; cut off the cord at the small part. This done to both testicles, the operation is over. *Put nothing in the wound.*

Let it be done in good weather, or if bad weather, house the animal and there is no danger, and in a few days he will be well. In general the things put into the wound cause all the trouble. It is cruel to cord them, and frequently they are lost by it. Rams may and should be altered in the same way. Never cord them for mere humanity. A. S.

*New York, Feb.*, 1846

## ANNUAL MEETING OF ONEIDA COUNTY AGRICULTURAL SOCIETY.

THE Annual Meeting of the Oneida County Agricultural Society was held at Trenton, on the 8th of January, and considering the day, which was stormy, was fully attended. The following gentlemen were elected officers of the Society for the ensuing year.

*For President*, Dolphus Skinner, Deerfield; *Vice Presidents*, Squire M. Mason, New Hartford; Henry Rhodes, Trenton; David Uttly, Western; Calvary Wetmore, Vernon; Horatio Seymour, Utica; David Gray, Marcy; Eli B. Lucas, Kirkland; John J. Knox, Augusta; Henry B. Bartlet, Paris; Pliment Mattoon, Vienna; *Corresponding Secretary*, John P. Burgett, Utica; *Recording Secretary*, Benjamin N. Huntington, Rome; *Treasurer*, William Bristol, Utica; *Managers*, Israel Denio, Jr., Rome; Lucius Warner, Vernon; Chauncey C. Cook, Kirkland; Lewis Benedict, Verona, Lewis Eames, Lee.

Some of the premiums awarded were—On winter wheat 66 bushels, 56 bush. 54 lbs., and 41 bush. 9½ lbs., per acre. On spring wheat, 34 bush., and

28 bush. 40 lbs. per acre. On Indian corn, 89 bush. 5 lbs., 79 bush. 48 lbs., and 75 bush. 12 lbs. per acre. On barley, 63 bush. 27 lbs., and 63 bush. 9 lbs., per acre. B. N. H.

*Rome, January* 10, 1846.

—

The above is one of the most flourishing County Societies in the State, and is composed of a very active, intelligent, and enterprising set of men. We knew that Oneida was famous as a dairy county, but we were not aware that she was in the habit of turning out such heavy grain crops. It shows, however, that the Mohawk Flats and the fertile uplands are still good for large crops, when judiciously called upon to yield them. The Society has our best wishes for its success, and we are much obliged to our correspondent for his details.

## CATTLE OF TEXAS.

The following letter of President Houston was addressed to a gentleman in this city, and kindly handed us for publication. It is the best description of Texas Cattle we have yet seen, and we trust its publication may serve to call the attention of stock breeders to this interesting section of our country.

*Galveston, Texas, Dec. 1st*, 1845.

No present to me at this time could have been more acceptable than a fine Durham, as it is my intention to carry out the object which first induced my location in this country—that of stockbreeding. The present condition of our country, in consequence of annexation to the United States, will leave men free to pursue the more pleasing and profitable business of agriculture and herdsmen, than has been allowed for many years to our citizens, while under the various influences of excitement and uncertainty. Fortunately for us, we shall soon be at rest, when our natural facilities will be inquired into, and our resources developed, by those who have capital and possess enterprise.

Doubtless no country on earth possesses equal advantages to Texas as a stock-rearing community. Stock here requires no feeding either in summer or winter, and costs no trouble nor expense save marking and branding. Salting is not necessary, as salines or licks are in every part of the country; so that in fact, an ox weighing one thousand weight, or the most valuable cow, would not cost a farmer one cent in its rearing.

Our prairies are clothed with the most nutritious grasses, sufficient for countless herds. Heretofore, the Durhams have not prospered in this country; but this, to my mind, is readily accounted for. They have generally come by water, and remained on the seaboard, where the insects are more numerous than in the interior; and where, too, the climate is not so congenial to the constitution as the rolling country, not only of cattle, but likewise of horses. Some Durhams have been introduced from Missouri, and remained in the interior, about one hundred miles from the seaboard, and they have done well.

There is no good reason why blooded cattle or blooded horses should not do well in Texas, if proper care be taken of them the first year. The change of climate, from a northern to a southern latitude, will have an influence upon all animals, as experience has shown; this fact being known, should not be disregarded, while the animal is undergoing acclimation. My opinion is, that November would be the most favorable month for the introduction of blooded stock, and that they should be fed on hay or corn-stalk fodder, with very little grain during the winter, and be kept sheltered. If this course were pursued, I am satisfied that there would not be more than one failure in twenty experiments.

The present stock of cattle in Texas is generally a mixture of Mexican, and cattle from the United States. They each show a distinctness of character. The Mexican (or Spanish) cattle are not so heavy or compactly built, but are taller and more active; nor do they weigh as well in proportion to appearance when slaughtered as the American cattle. They are more active than our cattle, with remarkably long, slim, and sharp horns: they are not so good for milk as ours. A cross of the breeds I consider an improvement, and for oxen decidedly so, for it blends the power of the American with the sprightliness and activity of the Mexican cattle. There is a fact in the natural history of Texas, which has heretofore claimed but little notice, and which seems to me not unimportant.

When the first colonists, under Mr. Stephen F. Austin, arrived in Texas, they found herds of wild cattle on the Brassos and its tributary streams. There was no tradition of their origin, nor has anything satisfactory on the subject yet been ascertained. They have receded as the settlements advanced, and are now above the Falls of the Brassos, and principally upon Little River. They are of a brindle or reddish color, and are represented by those best acquainted with them as more wild, and, when wounded, much more dangerous than the buffalo. The males have occasionally attached themselves to herds of tame cattle, and become very gentle. Calves have been caught by our pioneer settlers, and reared. The cross is said to be an improvement upon our common stock, imparting to their offspring an appearance, in color and proportion, of the wild cattle. The males I have been assured by hunters and other persons, are as large as the finest Durhams. I have seen work oxen, said to be half breeds, much larger than any others which have fallen under my observation in the United States or Texas.

For years past I have endeavored to procure the full bloods; but in consequence of other duties I could not use the attention necessary to ensure success. I will now renew my exertions with increased interest, and I hope it will be in my power to produce a cross of the Durhams with the original Texas cow. Should I be fortunate in my efforts, I shall be happy to apprise you of the result.

Sam. Houston.

**Indian Cakes.**—Boil some corn meal, as mush, for five or six hours; then mix it as a batter, and add some wheat flour to make the cakes hold together and turn easily; and two or three eggs, with salt to season; bake on the griddle till brown.

**Mush.**—It is very common to make mush by boiling only a few minutes. This is all wrong. It should be boiled one or two hours, and if longer it will do no harm. It will be necessary to occasionally add some water to keep the mass thin and prevent burning.

## THE GRASS LANDS OF WESTERN NEW YORK.

If we draw lines from the outlet of Lake Erie to the northeast corner of Wyoming county, and thence to Pennsylvania, the tract of country south and west is not generally favorable to the production of winter wheat. It is of the kind called *grass land.* At its first settlement, however, winter wheat and all other crops of the Middle States were eminently successful, and the region was valuable for abundant production, and numerous springs and streams of excellent water, and the peculiar salubrity of its climate; exempt mainly, as it ever has been, from the ordinary diseases of a country recently settled.

At the first settlement of a thickly wooded country, grain must necessarily be the chief production, for domestic animals cannot be kept in large numbers. Of all cereal crops, wheat is the most valuable, and receives the greatest share of attention. But that which necessity reasonably originates, becomes, in the course of time, habit, and frequently continues in full force long after the cause has ceased. Thus it was, for many years, a part of the farming system in this region to sow winter wheat, where experience annually demonstrated that it could not succeed under the ordinary mode of cultivation. The farmers were discouraged. Expedients might have been attempted, but in the new land of the west they could do as they had done before. Custom had taught them to like the axe better than the plow, and emigration became the order of the day. Yet the soil was not exhausted. Spring wheat and a proper system of plowing the earth into beds so as to drain the soil, were scarcely known, and yet more rarely practised.

Strange whims and conceits existed here. Many people believed that not only would cattle and horses refuse to eat clover hay, but that if eaten it was poisonous. Others thought that the land must be seeded down after clearing, and that in the end the good grass would die out, and that it *must* be let alone, for if once plowed up it would be destroyed for ever. And so it would have been. Under the operation of a retentive soil, an impervious subsoil, and a surface abounding in the inequalities called cradle-knolls, sufficient plowing to raise the land into ridges, so that the water might escape, was nowhere more necessary; and abundant examples now illustrate that it has been followed by effects the most beneficial. It may be added, that the first crop raised in doing this, will at *least* repay the expense incurred.

There has been much speculation as to the causes why winter wheat cannot now be produced. It is generally supposed, even among chemists, that they result from a deficiency of lime in the soil. But if so, would not the production of spring wheat be also affected? In fact we must not look exclusively to chemical causes for an answer to the question. The soil is for the most part light loam, friable, often abounding in vegetable matter, and very retentive of moisture. The subsoil generally approaches the surface, and is composed of sand, pebbles, and clay, forming an exceedingly compact mass, or hardpan, scarcely to be broken at all by the common plow, and through which water cannot penetrate, except in small quantities. The rain is therefore retained on the surface. The upper soil acts as a sponge, and under the influence of frost, becomes mixed with ice so as to bear a resemblance to a honey-comb. Hence, as soon as the fibrous roots of the trees (which, while they remain, prevent heaving) have decayed, winter wheat is actually lifted out.

What may be the effect of the subsoil plow by producing mixture of the hardpan with the upper soil we shall hereafter state from the result of experience. It is a common idea that the hardpan contains lime, and would thus correct the supposed deficiency in the upper soil. Some specimens having been subjected to severe chemical tests, with a view to giving the result, it was found that they yielded scarcely a trace of lime. Yet as the deeper hardpan is not so impervious to water as that near the surface, and as it crumbles upon exposure to the air, there is room to hope that its effects would be highly beneficial; and particularly so to the growth of winter wheat.

Spring wheat nowhere yields better grain or in greater abundance. Nor is it easy to find any region where, with the same amount of cultivation, can be raised better crops of barley, oats, flax, buckwheat, beans, turnips, carrots, parsnips, and potatoes; while as to grass and clover it is probably excelled by no portion of the Union. Two tons of hay to the acre are far from being an unusual crop; it is the quantity commonly obtained from land well seeded down and occasionally manured. The quality of the hay is excellent. The same retention of moisture which prevents the growth of winter wheat is admirably favorable to grass. It is long before a summer drought is felt, and the grass, suffering little from this cause, grows luxuriantly in the fall, and sprouts up in the spring as early as in any part of the State.

From causes already mentioned, the price of this land has greatly decreased. Discouraged by the bad success of bad farming, many are anxious to sell at low prices. There are instances where half-cleared farms have been sold for $4 to $5 per acre, and good grazing farms, with the common buildings of the country, can very easily be bought for $8 per acre, even within twenty or thirty miles of Buffalo. Assuming the average price of wheat land in this State to be about $40 per acre, five acres of the former can be bought for one acre of wheat land. If four sheep can be kept on one acre of the grass land of this region (and most farmers say this is below the average capability), it is easy for any practical farmer to determine how the profit from twenty good sheep, after deducting the necessary expense, compares with the profit, after similar deduction, from the average annual produce of one acre of wheat land.

As neat cattle thrive here, it is found that the butter and cheese of this district, when properly made, cannot be surpassed. Access to railroads, Lake Erie, and the canals, renders transportation to the seaboard cheap, safe, and rapid, whilst the consumption of provisions in the cities of Rochester and Buffalo furnishes a ready market for any surplus of such productions as are of a perishable nature, or too bulky for distant transportation. Probably no great length of time will elapse, before well-fed beef, mutton, and pork, will be sent hence to Albany, Boston, and New York, and a larger profit realized than by selling the animals in poor condition to be driven some hundreds of miles to the neighborhood of those cities, and then fattened where the materials for doing so are highly expensive. Such, at all events, has been the result of railroads in Great Britain. Here is one great advantage over the western States. This, and the present low price of the land, as well as the salubrity of the climate, may well be subjects of consideration to those who are about to emigrate.

It is common to think everything without value, which, if not cash, has not some approximation or convertibility into cash; and yet simple-minded folks have sometimes thought that cash itself is only profitable so far as it can procure happiness for ourselves or those whom nature or friendship has attached to us. Some, too, who have travelled in many countries, have at least fancied that cheerful scenery has a strong tendency to make cheerful those who live surrounded by it. Such people, though they may wish more frequently to find here those tokens of human well-being—neat farm-houses and thriving sheep and cattle of the most useful kinds, will yet see that the hand of intelligent improvement has in many places been at work, and must be delighted with the fertile valleys and the beautiful hills, everywhere capable of high cultivation, which characterize the grass lands of Western New York. R. H.

*Buffalo, Feb.*, 1846.

## SEEDLING POTATOES.

Some time ago I promised to give you an account of my seedling potatoes. If they possess no other recommendation, they are entirely free from the disease so prevalent all over the world. I have lately gone through my bins containing nearly two hundred bushels, and after carefully inspecting them, found *every one* perfectly sound. My neighbors have not been so fortunate for the last two or three years, and I attribute my success to my method of preparing the seed, and subsequent culture. I cut two eyes to a set; after which they are spread over a barn floor to dry for six or seven days before putting them into the earth, and during this time, each set is carefully examined *by handling*, to ascertain the fact of its drying and shrinking properly. Occasionally one or two soft ones are found, which are discarded as worthless; the good sets will always dry up, and yield but little to the pressure of the finger, and these alone are planted. As soon as the vines show themselves above ground, I top dress them with slaked lime, 40 bushels to the acre, hoeing only twice, but using the plow as often as necessary, to keep down the weeds.

For the last three years I have gone through the same operation with other potatoes, not seedlings, and have invariably lost one-half of my seed by their not standing the drying test; but it is better to lose half the seed than half the crop. In cutting carefully a potato that is in part affected, you can remove the diseased portion, and by submitting the seed to be dried, ascertain its fitness for propagation.

I have found the disease showing itself in a spot no larger than the head of a pin, and then gradually spreading over the whole potato; is not this a sufficient objection to the planting of whole roots? I prefer liquid manure to any other for potatoes, and in fact for every vegetable. My opinion is the result of several successful experiments with this essence, but before giving them to you, I will describe the pit in which I collect all juices and offal. It is 6 feet deep, 60 feet long, and 20 feet broad, with a good tight clay bottom, and stoned up on all sides. My cow shed is on the north side, and the floors of the stalls and passages incline sufficiently to allow the fluid excrements to reach the pit without resistance, and the solids are thrown in at each cleaning of the stable. The inclination of my yard is also towards this receptacle, and the wash from it I consider important. By means of a pump I draw off the liquid when wanted, and with a hogshead placed on a roller, roll and irrigate my meadows simultaneously. Last season I tried the fluid for potatoes. I plowed half an acre of ground, and after harrowing it well, passed the roller over with the sprinkling apparatus attached; put on about 8 tons of the liquid manure, together with 2 bushels of salt, then followed again with the plow, previous to planting the seed. Notwithstanding the drought, the crop harvested from the half acre was 170 bushels of a very large size, many of them 4½ inches in diameter, and very few under 3 inches. I never saw a more even crop in my life. For gooseberries, raspberries, &c., there can be nothing better than manure in a fluid state, and vines thrive better and produce much finer fruit when it is used. In fact, no plant is more benefited by this application than the grape. I believe even in this country it is quite a common thing to see a gardener dipping the roots of plants intended for transplanting, into a paste made of urine and clay, or any earthy substance. When this is done all flourish, and no sheltering from the sun is necessary.

The use of liquid manure, as a fertilizer, is not a novelty. On the contrary, the Chinese, Germans, and Italians, have for ages paid great attention to the collection of urine, and to the manufacture of substitutes, and many artificial mixtures have been made with great success. In England, scarcely a farm is without its cistern to hold the juices and wash of the barn yard, the farmer being obliged to husband everything in the shape of food for the land. And when chemistry steps in and tells us the valuable properties of these fluid excrements, that man must be obstinate indeed who will not save all and pay some of his dues to the earth with this valuable liquid. It is an admitted fact, that all composts, bones, lime, magnesia, &c., are dissolved by some means before vegetables will notice them; hence, in presenting a fluid manure to them, as the salts of the urine have a forcing power, vegetation immediately commences. The improvements that are constantly being made in the agricultural world, and the wonderful facts brought to light by the aid of science, show clearly the growing interest evinced in making the earth bring forth its full fruits. Common sense tells us the earth must be fed, or it will become exhausted; and to avoid the fate of one of our Southern States, let us collect and preserve everything containing the necessary elements of vegetation. Wm. B. Oddie

*The Meadows, Rockland Co., Jan.*, 1846.

# Ladies' Department.

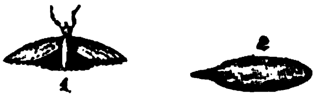
## INSECTS.—No. 2.

*From the Diary of an Old Lady.*—March 1st, half past four o'clock. A fine bright morning, promising a spell of weather that should put housekeepers in motion.

The first day of spring brings with it a train of thoughts—of anticipated pleasures—and a crowd of business. My household all in motion, and I only wait for breakfast and daylight to begin a strict, though quiet investigation of closets, cellars, and other unexplored corners that have rested in peace since the cold weather set in. To-day I must prepare the trunks and closets that are to receive blankets, furs, and carpets, for the summer; not that we can yet dispense with them, but the moths are beginning to take wing, and they must be looked to.

2d.—Visited the flannel closet, and found moths suspended from the ceiling and on the walls—a few had already taken wing; but the largest portion are still in their little sacks, waiting the next warm weather to change into the fly, and deposit their eggs on the first woollen garment that they meet with out of use, or carelessly left in their way. It is a common error that moths love dirt—it is not so; but they do love to live with a careless housekeeper, where they can feed unmolested on the woollen cloths that are suffered to remain in dusty closets or garrets that are seldom visited by the brush. Moths, in common with all insects, deposit their eggs on or near the food best suited to the young grubs; the eggs soon hatch if the weather be favorable, and the worms feed for five or six weeks, when they leave their food, and suspend themselves in their sacks on the walls, or in corners of closets, drawers, and where they must be searched for and destroyed. There are many species; some feed on fur, some on wool, and some on skin; thus an old neglected hair trunk may supply moths enough of various kinds, to ruin half the valuable clothes in the house; for in the absence of their proper food, they devour all woollens indiscriminately. Must give strict orders to have the hair trunk well examined—troublesome things—determined never to have another. Visited the meat room, found moths in their sacks hanging on the wall—wondered what could take them there, when, on a strict search, found to my astonishment that they were feeding on the skins of the hams—a new species to me, and therefore to be carefully preserved in my cabinet, and their pictures taken.

*Explanation.*—1, Ham moth; 2, worm partly projecting from the sack.



HAM MOTHS.—FIG. 28.

12th.—The moths I found feeding on the hams have taken wing. They are of a small size; pale yellowish brown with a slight golden lustre; the under wings of the same color, but much paler. The worm never entirely leaves the sack; but when feeding or in motion, projects its head and four front feet out, clinging with the hind feet to the inside of the sack, thus prepared to retire under cover on the slightest danger. Both ends of the sack are open, and it walks with equal ease, backwards or forwards.

The mice, too, are now to be carefully looked after; they are making nests in band-boxes, in my summer bonnet, and other inconvenient places, where they imagined they might bring up their little families in peace and prosperity; but they did not know me, they are new comers.

14th.—Betsy tells me that the cockroaches are beginning to show themselves in the kitchen—nasty things! and should never be allowed to rest in peace in a well ordered country-house! therefore, I will send for plenty of spirits of turpentine this very day, and this evening will pour it into every crack and hole about the kitchen, which will drive them out; and, on their appearance, a stream of boiling water from the kettle shall prevent their return. It is not true that if you kill *one*, *ten* will come to the funeral; the person who first said that was either ignorant of their history, or she was *too lazy* to take measures to kill them. The cockroach which infests our houses (*Blatta orientalis*) was originally taken from Asia to Europe, and from thence to America. It deposits its eggs in warm places, near ovens and under hearths, where it delights to pass the remainder of its life. It lives three years, and undergoes no other changes than frequently casting off its skin, like the crab, whenever it has grown too large to be comfortable in the old one, and on the third year gains a pair of wings; it has then arrived at maturity, and deposits a number of eggs enclosed in a dark brown case of a bean-like appearance. They increase with great rapidity, but may soon be destroyed if diligently looked after and killed. Turpentine poured into their haunts will instantly drive them out, when boiling water thrown on them will effectually destroy them. Red lead, Indian meal and molasses, mixed in equal proportions, and placed in their way, will be devoured greedily by them, and proves certain poison. Nothing appears to come amiss to their appetites, either animal or vegetable; but wet, dirty dish-cloths appear to be their peculiar delight; and should you visit the kitchen an hour after the family are gone to bed, you will find such articles blackened by their numbers. A pan of boiling water placed under such articles, and the cloths dropped in, will prove an excellent trap. A week's diligent search will clear a house, unless they have been suffered to increase for years. Their vile habits and disgusting odor make them dreaded by every one; yet they are suffered to remain in most houses without molestation.

Having made these discoveries, it is my determination that all the pleasant weather of this month shall be devoted to a careful cleaning of all the cellars, closets, store rooms, and neglected crannies, and that neither water nor white-wash shall be spared; but it shall be done quietly and in order, and with as little inconvenience to the family as the nature of the case will admit. I do not wonder that men and the seamstresses of the household complain of bustling housekeepers—I shudder when I think of them. A bustling housekeeper is seldom an economical one; for while her peculiar occupation is attended to, everybody else must stop theirs, thus only half the household machine is effectually employed, while all is in motion and wearing out.

16th.—Salmagundy says Aunt Charity died of a *Frenchman!* now I am sadly afraid I shall die of a *woodpecker!* for, of all animated things, they rouse my curiosity the most. The day is cold, and a light snow is falling, looking very beautifully, but not very tempting to leave a warm fire and my writing table to go into the orchard; but all day I have been attracted to the window by a scarlet-capped, white-bosomed, dandified woodpecker, who, by his business-like air and earnest manner of prying into all the holes and corners about the trunks of the trees, convinces me that there are secrets to be discovered that I am not willing he should keep to himself, however glad I may be of his assistance in discovering them: besides, I am much interested in a bunch of dried leaves that has dangled on the branch of a plum all winter, having more meaning in it than people suspect, or I am much mistaken. The long-handled rake shall help me to that secret; so snow and cold to the contrary, notwithstanding, I will go—better die of cold than of a woodpecker!

Well, here I am back again. The day is not as cold as I thought. My thick coat and wadded hood have kept off the light snow, and my gum shoes prevented my feet from suffering, while I fully gratified my curiosity. The bunch of dried leaves proved a screen to a cocoon that I shall be glad to watch, as I suspect it to be the winter home of a large green worm that was feeding on the tree last summer. The woodpecker was in search of the worm that is so destructive to the apple orchards, and had succeeded in destroying many that were sufficiently near the surface for his curious long tongue to reach; but the older ones had gone too far for him, and required some contrivance on my part to find them; a piece of stout bonnet wire I find very effectual. Some had gone beyond the reach of the wire; but I am told that mercurial ointment filled into the hole will poison them—I will try to-morrow.

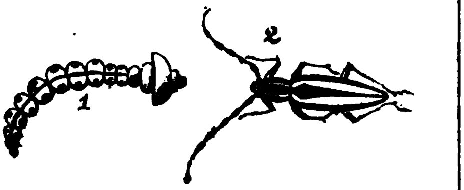


Fig. 29.

This worm is much to be dreaded, and carefully guarded against. It is the larva or young of a beetle called *Sapuda bivottata*. The face and lower part of the body is white; the wings and head are marked by two white and three cinnamon brown stripes, from the eyes to the tips of the wing cases; the horns or antennæ are longer than the body, they are from one-half to three-quarters of an inch in length. They begin to appear early in June, escaping from the tree in the night, which is their time for flight and motion, concealing themselves during the day among the leaves of the trees on which they feed. The eggs, which are of a pale grass-green, are deposited under the loose bark of the tree, from three to twenty in number. In favorable weather the young worms soon hatch, and penetrate the bark. During the first year they are easily destroyed, as they live in or immediately under the bark; the second year they penetrate one or two inches into the wood, and during that time they are in reach of the woodpecker or a piece of wire; the third and last year they become more voracious and much larger, and penetrate a foot or more into the body of the tree. Their path is always upwards, and as they arrive at maturity bore near the surface, and lie concealed under the bark while in the pupa state. When its transformation takes place, it gnaws a hole in the bark and makes its escape; therefore, the first clear warm afternoon, the girls shall go with me, and with pruning knives and wire in hand, will share the sport with the woodpeckers; and if I hear of any of the boys killing a woodpecker, I won't say what I will *do*, but I think I shall hand them over to a smart rubbing with the *oil of hickory!*

## THE GARDEN.

The month of winds and storms, noisy, boisterous March, has forced himself into notice, like a great overgrown school-boy, who, having missed lunch, rushes home ravenous for his dinner, and is quietly told to wait *patiently*, for it will not be ready this half hour.

In these rapidly lengthening days and warm sunshine, we feel that spring has come indeed; and if we do not hurry our preparations for gardening, we shall be caught napping by bright, showery April, all smiles and tears, and birds and flowers, before we are half ready for it. Those beautiful harbingers of spring, the modest snowdrop, the crocus, the green and yellow hellebore, and the mezereon, with its clusters of dark rose-colored flowers, have bloomed amid alternate storms and calms, and are no more seen; all but the last have withdrawn to their earthy beds, to enjoy another ten months sleep. It warms my very heart to look out upon the sheltered borders, and see the gay daffodils and merry-looking purple polyanthuses, nodding to welcome each other to life and light—and the violets shedding their fragrance from every sunny bank. The hearts-ease, which have cheered us all winter, are so common now, even in the garden walks, that they would be scarcely worth noticing, were it not for a sort of individuality in each flower, a saucy, good-natured confidence, in its quaint way of looking up at one, as if to say, "I am laughing at you!" that one cannot choose but gather, and love them.

Here is a merry blackbird too, perched on the topmost twig of yonder red maple, carolling like any mocking bird, and making as much noise as if he alone was worth attending to in this busy work-a-day world—but there is no time to listen to music now, for everything hurries me to look after my vegetable treasures. E. S.

Hints to Ladies.—Stair carpets should always have a slip of paper put under them at and over the edge of every stair, which is the part that first wears out, in order to lessen the friction of the carpet against the boards beneath. The strips should be within an inch or two as long as the carpet is wide, and about four or five inches in breadth. This simple plan, so easy of execution, will preserve a stair carpet half as long again as it would last without the strips of paper.

# Boys' Department.

## USEFUL AMUSEMENTS FOR BOYS.

On most farms the care of young stock belongs to the women and boys. The boys should make the care of calves their own.

Calves should never be allowed to suck after the first day. When they have filled themselves well with the *first* milk, they should be taken away and confined in the barn; and until the milk becomes good for use, it should be taken from the cow, and fed by hand to the calf. It will soon learn to drink, if a finger be put in its mouth and its muzzle in the milk. At the end of three or four days, it should have no more new milk. When the milk has been skimmed, let it be warmed and given to it. The calf will not be so fat and look so sleek as if fed with new milk, but will grow in frame as fast, and be as large in size and bone, as one fed on new milk, if it have enough; the reason of this is that the cream skimmed off the milk only makes fat, and does not make flesh or bone. Feed the calves well with good sweet skim milk at regular periods, say three times a day, and give them good pasture, and by fall they will be of good size. Always treat them kindly, and make them gentle. This will give you good and kind cows, if the calves be heifers; and good and gentle oxen if they be steers. In the fall either make yourself, or get made, a small yoke, put it on the steer calves, and accustom them to it, and commence breaking them. In the winter, after they have become docile, hitch them to small sleds and draw little loads of wood. By spring the steers will be well broken.

## ANOTHER POULTRY ACCOUNT.

You may remember, boys, that last April, I gave you a copy of my poultry account for 1844. Now if you are so inclined, I will overhaul the account for the past year. But before we go to the figures, I will tell you of sundry mishaps and blunders, which have had some effect on the profits, for by the errors of others you may learn as much as by their success.

First, then, not having a proper yard enclosed, I had to keep the fowls during the summer shut up in their house (21 ft. by 12) until afternoon, as I was planting immediately around the building. This confinement, and limiting their food entirely to corn, when they should have had a variety, such as oats, buckwheat, a little wheat, and some butcher's offal, or scraps of meat, induced a distemper among them, by which some dozen or more were carried off; and causing a great falling off in the eggs. Then again all the broods of early chickens were completely destroyed by a certain little animal, which it is not polite to name, and which we must therefore spell, viz., *l-o-u-s-e*. I soon found that a few drops of sweet oil, or a little fresh lard, well rubbed on the back of the head, and on the wings of the chicks, immediately on taking them from the nest, was a perfect remedy—so much for Dame Partlett's family.

The Gobbler's family was even more unfortunate, for of the four turkeys that survived the winter, three were killed during the summer, and of about fifty chicks, four only exist at this present. Now these calamities happened on this wise. The old fowls, having their wings clipped to prevent roosting on trees, fell a prey one night to sundry unruly dogs, who took advantage of their crippled condition, and the little chicks suffered in various ways from a want of that important requisite, "the master's eye." An unsightly heap of brush, in the neighborhood of the coops, afforded shelter to that sneaking rascal, "black rat," who cut the throat of every unfortunate chick that came within his domain. One night some frisky young Berkshires escaped from their pen, for lack of a few nails driven in time, and played such pranks among the coops, that the account of killed and wounded the next morning was quite a serious affair. Neither did the geese entirely escape. Theirs was a case of killing with kindness. The man who had charge of the live stock, believing, like many a better educated one, that "good living," and "plenty of it," was the great good of earthly existence, dealt out the corn so liberally that by reason of excess of fat, two only, out of twenty-four eggs from the two geese, contained the living principle, and of these one only hatched, the other suffering from a lack of patience in ——, I wont tell who. Now then, having got through the chapter of accidents, let us look to the cyphering. I commenced the year with the following stock, viz.:

| | | | |
|---|---|---|---|
| 1845. | | *Dr.* | |
| Jan. 1. | To 44 hens 6 cocks, *a* 25 cts. | $12 50 | |
| " | " 6 turkeys, *a* 62 1-2 cts | 3 75 | |
| " | " 4 geese, *a* 62 1-2 cts. | 2 50 | $18 75 |
| Feb. 25. | To cash for 15 hens, *a* 25 cts. | 3 75 | |
| Jan. 30. | " " " 22 geese, *a* 50 " | 11 00 | |
| Aug. 14. | " " " 6 young ducks, | 1 00 | |
| Nov. 14. | " " " 5 common do. | 1 25 | |
| " | " " " 1 p'r Muscovy, | 1 13 | $18 13 |
| Dec. 31. | " 61 1 2 bush. of corn, *a* 62 1-2 cts. | | 38 44 |
| " | " labor picking geese, | | 88 |
| | | | $76 20 |
| | To balance (profit), | | 44 25 |
| | | | 120 45 |
| 1845. | | | *Cr.* |
| Dec. 31. | By 3660 eggs used or sold, *a* 1 1-10 c. | | $40 15 |
| " | " 25 chickens do. do. *a* 25 c. | | 6 25 |
| " | " 3 turkeys do. do. *a* 62½ & $1,00, | | 2 25 |
| " | " 6 ducks do. do. *a* 37 1-2 c, | | 2 25 |
| " | " 23 geese do. do. *a* 6 c. per lb. | | 15 67 |
| " | " 35 lbs. geese feathers, *a* 50 c. do. | | 17 50 |
| " | " 16 bush. hen manure, *a* 12½ c. do. | | 2 00 |
| Dec. 31. | By stock on hand, viz.: | | 86 07 |
| | 103 fowls, *a* 25 c: | $25 75 | |
| | 7 ducks, *a* 37 1-2 c. | 2 63 | |
| | 4 turkeys, *a* 75 c. | 3 00 | |
| | 4 geese, do. | 3 00 | $34 38 |
| | | | $120 45 |

The result, you see, although not quite equal to 1844, is not to be despised. The geese are not the least profitable part of the stock. They are the large white Bremen variety, weighing, dressed, from 10 to 15 lbs. They are confined in a lane which gives access to the different fields, and in which there is a large artificial pond, with a good supply of water, even in the driest seasons. L.

*Rahway, N. J., Jan.*, 1846

## FOREIGN AGRICULTURAL NEWS.

By the steamship Cambria, we are in receipt of our foreign journals to February 4th.

MARKETS.—*Ashes* in limited request. *Cotton* remains in price as per our last, and was quite firm. A small advance is anticipated as soon as money becomes easier. *Flour* no change. *Beef*, *Pork*, and *Cheese*, slow of sale. *Lard* has fallen rapidly. *Tallow*, a slight improvement. *Tobacco*, without alteration. *Wool* has advanced and was purchased freely.

*Money* was still scarce and in much demand.

*Important Alterations of Duties on American Produce.*—The British Ministry propose to make important reductions on many of the articles exported from America to England. We hope to see a similar spirit manifested by the cabinet at Washington. The alterations comprise—

| | *Previous duty.* | *Reduced to* |
|---|---|---|
| Bacon, | 14s per cwt. | Free. |
| Beef, fresh, | 8s per cwt. | Free. |
| " salted, | 8s per cwt. | Free. |
| Hay, | 16s per load. | Free. |
| Hides, | 2d per lb. | Free. |
| Meat, | 8s per cwt. | Free. |
| Pork, | 8s per cwt. | Free. |
| Buckwheat, | —— | 1s per quarter. |
| Butter, | 20s per cwt. | 10s per cwt. |
| Candles—Tallow, | 10s per cwt. | 5s per cwt. |
| Cheese, | 10s 6d per cwt. | 5s per cwt. |
| Clocks, | 20 per cent. | 10 per cent. |
| Hams, | 14s per cwt. | 7s per cwt. |
| Hops, | 90s per cwt. | 45s per cwt. |
| Indian Corn, | heavy duty. | 1s per quarter. |
| Rice, | 6s per cwt. | 1s per quarter. |
| Tallow, | 3s 6d per cwt. | 1s per cwt. |

There are many other articles manufactured by the American artizan which may be exported to England with advantage, provided this new tariff is carried out.

There seems great inconsistency in admitting American bacon free, and charging hams (the other part of the pig) with a duty of 7s per cwt. We advise our friends to cure the whole side, including the ham, which in this country is called "A gammon of bacon," and is estimated a "dainty dish," but do not overdo it with salt. In a few packets hence we will forward to our New York agents recipes for curing bacon, adopted in three most celebrated counties in England, viz., Hampshire, Wiltshire, and Cumberland, which may be had on the application of a letter, post-paid.

*Mutton Hams*, cured, are, in England, held in high estimation by the epicure. These could be imported free as salted meat; and our recollection of the prices on a late tour through the States, leads us to the expectation that the exporters would make money by the speculation.—*European Times.*

*Spanish Sheep.*—We have recent advices from Messrs. Taintor and F. M. Rotch, who are now in Spain, busily engaged in looking over the Merino flocks of that country. They seem determined to bring away something valuable if to be found, no matter what may be the risk, trouble, and expense—to say nothing of their fatigue and danger in traversing so rude and disturbed a country.

*Mr. John P. Norton*, our Edinburgh correspondent for the past year or more, has been on a tour in France and Germany, and being very much engaged, has been obliged to discontinue his letters for the Agriculturist. He will probably leave England for the United States this month. It rejoices us to announce, that he has won the £50 (nearly $250) prize of the Highland Agricultural Society for the best analytical investigation of the organic and inorganic parts of various kinds of oats, grown on different soils, and by different manures. The paper is to be published entire by the Society This is no small feather in Mr. Norton's *chemical cap*, and does honor to the American name.

*To Prevent the Return of the Disease in Potatoes.*—The board of Trade in Holland has published the following rules to be observed as a preventive of the potato disease:—1. To leave the potatoes in the ground until very dry weather occurs. Experiments having shown that their decay is accelerated by being taken up, it is advisable to leave them in the ground at first, in order to get dried, and afterwards to lay them out over the field. This would have the double advantage of rendering the vegetable more wholesome, and of preserving it. 2. The following applies especially to those potatoes to be used as seed for next year: It is necessary to beware of planting those plants which have been attacked by the disease. They must be carefully chosen from those whose stalks have not been attacked, and placed in a situation free from the slightest damp. As the disease has been less severe in gravelly than in clayey soils, the tubers should be chosen from those gravelly soils where the disease has not penetrated. 3. The withered leaves of diseased potatoes, which are of no value, should be immediately burnt; the same should be done with the rotten potatoes, which cannot be of any use. Nothing should remain of them. 4. It is necessary to avoid as much as possible planting potatoes in the same spots where they have been planted this year, for it is most probable that seeds of the fungi have remained in these places, and there would be great risk of the ensuing crop being similarly attacked. 5. If, notwithstanding every effort, the disease should again break out next year, the moment the first symptoms of it are perceived, the first leaves that turn yellow should be taken off and burnt. or the entire field should be watered towards evening with lime water, or still better, with diluted sulphuric acid so as to destroy the seeds of the cryptogamous fungi; sulphuric acid, moreover, prevents rotting, and when prepared as above direced, can do no injury to the plants themselves.

*Increase of Stock in New South Wales.*—Our flocks and herds continue to increase. We had on the last day of 1844 nine thousand horses, one hundred and forty-two thousand head of cattle, and five hundred and fifty thousand sheep, more than we had on the last day of 1843.—*Simmond's Colonial Magazine.*

*Steep for Seed Wheat.*—Sulphate of soda (Glanber's salts) is dissolved in water in the proportion of 25 lbs. to 31 gallons of water. With this solution the wheat laid upon a paved or slabbed floor is sprinkled, the whole being meanwhile well turned till the grain will absorb no more of the liquid. Twelve pounds and a half of sifted quicklime are then added to each 8 bushels, taking care to mix the seed as carefully as possible. The seed thus prepared should be sown immediately. The sulphate of soda, which is composed of sulphuric acid and soda, combines with the lime; the lime forms sulphate of lime or gypsum; the caustic alkali acts on the diseased germs, and the calcareous salt stimulates the grain.—*Ag. Gaz.*

*Potatoes.*—It has been the observation of myself and others that the pigs fed on the infected Potatoes have fattened faster than on those that were not damaged, and I think Liebig accounts for this in his theory of the change that has taken place in the darkened parts of the potatoes. I had an acre of potatoes planted early, and though most of them were injured, yet I do not find them become worse. The great thing is to keep them dry. I find cows and sheep use them readily, and thrive upon them. I have planted potatoes this autumn, and some where the infected potatoes grew, and am inclined to think that I shall have as good a crop there, and as free from damage, as elsewhere.—*Ib.*

# Editor's Table.

The National Press.—A new family paper is to be started by Geo. P. Morris, Esq., well known as one of our most beautiful song writers, and the editor of the Mirror. It is to be a Journal for home; a repository for letters; a record of art; and a mirror of passing events. To be published every Saturday, at $2 a year in advance. We presume the brilliant Willis, the *fidus Achates* of the gallant Brigadier, will be associated in some way with the above journal. Of course it is bound to be fashionable, racy, witty, and all that sort of thing.

The Commercial Times.—This is a daily and semi-weekly paper recently published in New Orleans. It is neutral in politics, and aims to make itself useful to the commercial and agricultural class. It has a strong corps of editors, and is conducted with ability. Thomas Affleck, Esq., of Washington, Miss., so favorably known as a contributor to this periodical, has the control of the Agricultural Department. The Times is of large sized paper and neatly printed. It has every promise of a good circulation, and our best wishes for its success.

British Magazines and Reviews.—(*Office*, 112 *Fulton Street, New York.*)—Leonard Scott & Co. have been recently issuing their elegant reprints of the January numbers of the best periodicals published in Great Britain, and we would recommend all our readers who may be inclined to subscribe, to lose no time in doing so. The forthcoming numbers will, we have little doubt, be peculiarly valuable to the farmer, as they will in all probability contain the most authentic expositions of the opinions of the leading parties in England on the most absorbing topic of the day—the Corn-Law Question; and this is a matter in which not England alone, but the whole world is interested. Price for the four Reviews and Blackwood's Magazine, when taken together, $10 per annum. Single Reviews $3 per annum—Blackwood, $3. The four Reviews comprising the series are—the London Quarterly, the Edinburgh, the Foreign Quarterly, and the Westminster.

Library of Choice Reading.—*Foreign Series.* Under this title, Wiley & Putnam, 161 Broadway, are issuing a series of classic foreign works, at the low price of 50 cents per volume, which do honor to them as publishers. They have just sent us Two Parts of Tasso's Jerusalem Delivered, translated by Fairfax, with a Memoir of the author and translator, and a preliminary critique by Leigh Hunt. Of the unhappy Tasso and his immortal poem, the literary world has been enamored for more than two centuries and a half, and as time advances, they gain rather than lose in interest and reputation.

Stories from the Italian Poets, in Three Parts, by Leigh Hunt, is a summary in prose, of the poems of Dante, Pulci, Boiardo, Ariosto, and Tasso; with comments throughout, occasional passages versified, and critical notices of the lives and geniuses of the authors. This is a most delightful book, and highly useful to the student of Italian literature. Mr. Hunt seems to have written it *con amore*, and in his most agreeable style.

Letters from Italy, by J. T. Headley, is a charming work, and fresh almost as if nothing had been written for the past ten years from the land of clear skies and fine arts. He gives several interesting letters on its agriculture, extracts from which we intend to make hereafter.

The Illustrated Botany.—Edited by John B. Newman, M.D. Published by J. K. Wellman, 118 Nassau Street. Price $3 a year. This is a monthly publication, the first No. of which contains four beautiful colored engravings, after nature, of various choice flowers, and a lithograph of the *lilium candium*, with all its parts. It is got up in beautiful style, and it is intended that it shall comprise engravings of the most valuable native and exotic plants, with their history, medicinal properties, &c. This is a highly valuable publication, and we wish it success—the ladies will particularly admire it.

Life in California, during a Residence of several years in that Territory; comprising a description of the country and the Missionary Establishments; with observations, &c. Illustrated with numerous Engravings. By an American. To this is annexed a Historical Account of the Origin, Customs, and Traditions of the Indians of California, translated from the original Spanish manuscripts. Wiley & Putnam, 161 Broadway. California has now become a place of emigration for our countrymen, large numbers of whom are rapidly wending their way thither, with a view of permanent settlement. The publication of this book, therefore, is highly opportune. We have no doubt that California will be one of the Territories of the United States within ten years, and have a Representative in Congress at Washington. We do not care how rapidly the Anglo-American race people this continent, for they are the *most worthy*. Their superior intelligence, morality, and enterprise, will soon ensure them the whole of America, from the Isthmus of Darien to the North Pole.

Phrenology Examined, by P. Flourens: translated by Charles D. Meigs. Published by Hogan & Thompson, Philadelphia, is a valuable little work of 144 pages, in which the general principles of Gall's doctrine of phrenology are combated with vigor and ability.

European Agriculture. By Henry Colman. Part V. of Vol. 1 has been issued the past month by A. D. Phelps, of Boston. Saxton & Miles, agents, New York. The portion of the present number of Mr. Colman's work which has most interested us, commences at the "Plowing Match at Saffron Walden," and so continues to the end. His observations on English plowing deserve the attention of our farmers, and we are confident that they cannot but peruse them with interest and instruction. He goes pretty thoroughly into the subjects of surface soil, subsoil, subturf, and trench plowing. He also takes up harrowing, scarifying, and grubbing, subjects nearly as important as plowing, giving the beneficial results of these operations in English farming. Upon the whole, we like the latter part of this number better than anything which has yet appeared in Mr. Colman's work.

Mr. Valk's Country Seat.—We call attention to the advertisement of Jacob R. Valk, Esq., in this No. of our paper. We have often visited his beautiful country-seat, and can say that it is all it is represented to be. The conservatory is the most magnificent thing of the kind in the United States, and few in Europe equal it.

Agricultural School.—By reference to our advertising columns, it will be seen that Mr. Wilkinson has opened an Agricultural School, near Poughkeepsie. His location is healthy and pleasant, and we understand he is well prepared for the reception of scholars.

Important Discovery.—The St. Louis Missourian says that wild hemp has been found in the State of Missouri. A farmer from St. Louis county, being in a hemp warehouse, accidentally saw some Manilla hemp, made inquiry what it was, and upon being informed, said he had produced something exactly like it from a weed upon his farm, and that he would send in a sample, which he did, and it proves to be a variety of the Manilla hemp, resembling almost the New Zealand hemp; but it is said to belong to the same genus as the New Zealand, Sisal, and St. Domingo hemp, from which all our heavy cordage is made.

## REVIEW OF THE MARKET.

### PRICES CURRENT IN NEW YORK, FEBRUARY 23, 1846.

| | | | | |
|---|---|---|---|---|
| ASHES, Pots, | per 100 lbs. | $3 87½ | to | $4 00 |
| Pearls, | do. | 4 19 | " | 4 25 |
| BALE ROPE, | lb. | 5 | " | 7 |
| BARK, Quercitron, | ton, | 25 00 | " | 26 00 |
| BEANS, White, | bush. | 1 12 | " | 1 25 |
| BEESWAX, Am. Yellow, | lb. | 26 | " | 33 |
| BOLT ROPE, | do. | 12 | " | 13 |
| BONES, ground, | bush. | 40 | " | 55 |
| BRISTLES, American, | lb. | 25 | " | 65 |
| BUTTER, Table, | do. | 16 | " | 25 |
| Shipping, | do. | 9 | " | 13 |
| CANDLES, Mould, Tallow, | do. | 9 | " | 11 |
| Sperm, | do. | 25 | " | 38 |
| Stearine, | do. | 20 | " | 25 |
| CHEESE, | do. | 5 | " | 10 |
| COAL, Anthracite, | 2000 lbs. | 5 50 | " | 6 50 |
| CORDAGE, American, | lb. | 11 | " | 12 |
| COTTON, | do. | 6 | " | 10 |
| COTTON BAGGING, Amer. hemp, | yard, | 13 | " | 14 |
| Kentucky | do. | 12 | " | 13 |
| FEATHERS, | lb. | 26 | " | 34 |
| FLAX, American, | do. | 7 | " | 8 |
| FLOUR, Northern and Western, | bbl. | 5 50 | " | 5 87 |
| Fancy | do. | 6 00 | " | 6 50 |
| Southern, | do. | 5 50 | " | 5 87 |
| Richmond City Mills, | do. | 6 62 | " | 6 75 |
| Rye, | do. | 4 00 | " | 4 12 |
| GRAIN—Wheat, Western, | bush. | 1 15 | " | 1 25 |
| Southern | do. | 1 12 | " | 1 20 |
| Rye, | do. | 80 | " | 82 |
| Corn, Northern, | do. | 68 | " | 70 |
| Southern, | do. | 67 | " | 69 |
| Barley, | do. | 62 | " | 65 |
| Oats, Northern, | do. | 45 | " | 46 |
| Southern, | do. | 38 | " | 40 |
| GUANO | do. | 2 00 | " | 3 00 |
| HAY, in bales | 100 lbs | 80 | " | 90 |
| HEMP, Russia, clean, | do. | 195 00 | " | 200 00 |
| American, water-rotted, | ton, | 105 00 | " | 185 00 |
| American, dew-rotted, | do. | 75 00 | " | 125 00 |
| HIDES, Dry Southern, | do. | 8 | " | 10 |
| HOPS, | lb. | 20 | " | 35 |
| HORNS, | 100. | 1 00 | " | 7 00 |
| LEAD | lb. | 4 50 | " | 4 56 |
| Sheet and bar | do | 4½ | " | 5½ |
| MEAL, Corn, | bbl. | 3 50 | " | 3 75 |
| Corn, | hhd. | 16 00 | " | 17 00 |
| MOLASSES, New Orleans, | gal. | 23 | " | 29 |
| MUSTARD, American, | lb. | 16 | " | 31 |
| NAVAL STORES—Tar, | bbl. | 2 25 | " | 2 38 |
| Pitch, | do | 1 25 | " | 1 38 |
| Rosin | do. | 85 | " | 95 |
| Turpentine, | do. | 4 50 | " | 5 00 |
| Spirits Turpentine, Southern, | gal. | 63 | " | 75 |
| OIL, Linseed, American, | do. | 64 | " | 65 |
| Castor, | do. | 57 | " | 68 |
| Lard, | do. | 70 | " | 75 |
| OIL CAKE, | 100 lbs. | 1 75 | " | 1 88 |
| PEAS, Field, | bush. | 1 50 | " | 2 00 |
| PLASTER OF PARIS, | ton. | 2 50 | " | 2 60 |
| Ground, in bbls., | of 300 lbs. | 1 12 | " | 1 22 |
| PROVISIONS—Beef, Mess, | bbl. | 7 00 | " | 9 00 |
| Prime, | do. | 4 50 | " | 5 50 |
| Smoked, | lb. | 6 | " | 9 |
| Rounds, in pickle, | do. | 4 | " | 6 |
| Pork, Mess, | bbl. | 10 50 | " | 13 00 |
| Prime, | do. | 9 00 | " | 10 00 |
| Lard, | lb. | 6½ | " | 7½ |
| Bacon sides, Smoked, | do. | 3 | " | 4 |
| In pickle, | do. | 3 | " | 4 |
| Hams, Smoked, | do. | 6 | " | 10 |
| Pickled, | do. | 4 | " | 7 |
| Shoulders, Smoked, | do. | 5 | " | 6½ |
| Pickled, | do. | 4½ | " | 5 |
| RICE, | 100 lbs. | 3 75 | " | 4 50 |
| SALT, | sack, | 1 35 | " | 1 45 |
| Common, | bush. | 20 | " | 35 |
| SEEDS—Clover, | lb. | 10 | " | 13 |
| Timothy, | 7 bush. | 16 50 | " | 21 00 |
| Flax, clean | do. | 10 75 | " | 11 00 |
| rough, | do. | 9 50 | " | 10 00 |
| SODA, Ash, cont'g 80 per cent. soda, | lb. | 3 | " | 3 |
| Sulphate Soda, ground, | do. | 1 | " | — |
| SUGAR, New Orleans, | do. | 5 | " | 8 |
| SUMAC, American, | ton, | 35 00 | " | 37 50 |
| TALLOW, | lb. | 7 | " | 8 |
| TOBACCO | do. | 3 | " | 7 |
| WHISKEY, American, | gal. | 22 | " | 23 |
| WOOLS, Saxony, | lb. | 35 | " | 50 |
| Merino, | do. | 30 | " | 35 |
| Half blood, | do. | 25 | " | 28 |
| Common | do | 20 | " | 22 |

## NEW YORK CATTLE MARKET.—Feb 23.

At Market, 1000 Beef Cattle (500 from the South), 80 Cows and Calves, and 1500 Sheep and Lambs.

PRICES.—Beef Cattle—The market, notwithstanding the recent heavy snow storms, was well stocked last week. Buyers have operated liberally, and not more than 100 head were left unsold at the close of the week's business. Prices remain firm. We quote $5a5.50a$5.75 for middling and inferior sorts, and $6.50a$7, for superior and prime. A small number of extra brought $7 50.

COWS AND CALVES.—All at market were taken at prices ranging, as in quality, from $17 to $35—a considerable improvement on the rates of last week.

SHEEP AND LAMBS.—The offerings were large, and a good request prevailed through the week. We quote $2a$4 as the extremes of the market. All sold.

HAY.—The market is well supplied, and though there has been an active demand for the article, prices, since our last report, have not materially improved.

—

REMARKS.—*Ashes* steady, but little doing. *Cotton* a slight reduction in some qualities. Export since 1st September last, 548,783 bales; same time last year, 755,709; same time year before, 392,058. *Flour* a trifle lower. *Corn Meal* the same. *Grain* of all kinds in good demand. *Hay* dull and unsettled. *Molasses* in fair request. *Naval Stores* a decline. *Provisions* quite dull. *Rice* without change. *Seeds* a firmer market. *Sugar* brisk. *Tobacco* quiet. *Wool* in increased demand.

*Money* has become quite plenty again.

*Stocks* are on the advance.

*Business Generally* is opening well.

*The Weather.* The ground is covered with a deep snow, yet the weather is clear and mild. The snow we think favorable for a quick spring, as it keeps the ground warm and moist, and, abounding in ammonia, enriches the land. As soon as it thaws, the grass and crops will spring up quick, and have a rapid growth.

PREMIUM LIST OF THE STATE AG. SOCIETY SHOW FOR 1846.—We did not get a proof of this list till the 22d ult., of course too late for this number. We shall give it in our next We do not know why it did not come to hand sooner, as we believe this was nine days after the Executive Meeting.

TO CORRESPONDENTS.—S. Y., A Subscriber, T., L. D. Clift, W. P. Cleaveland, L. G. Bingham, L. T. Talbot, S. B. Parsons, and Andrew Stone, are received.

PRINCE'S LINNÆAN BOTANIC GARDEN AND NURSERIES,

*FLUSHING, NEAR NEW YORK.*

Wm. R. Prince & Co. offer for sale their unrivalled collection of Fruit and Ornamental Trees, &c. The entire fruit department is carefully scrutinized by them personally, and ingrafted from the largest collection of bearing specimen trees in the Union; and they challenge a comparison in accuracy with any establishment in America or Europe. Purchasers are solicited to inspect their trees, and witness their superiority in size and vigor. The pre-eminence claimed can be readily tested by sending duplicate orders to them and to any other nursery. They have 3,000 extra-sized pears (on pear and quince), 8 to 12 feet with heads, very strong, and suitable for immediate bearing; and 10,000 pears, 5 to 8 ft., and 2,000 for dwarfs or *en quenouille.* Also plums, and apricots on plums, of the same sizes, and a large stock of Baldwin and other apples, cherries, and peaches, the latter very low, by the hundred and thousand. 10,000 quinces, 3 to 6 feet; 5,000 Lancashire gooseberries, assorted; Victoria and other currants; Fastolf, Franconia, and other raspberries, at low rates. Of grapes, the assortment comprises the most celebrated and *carefully selected* foreign varieties for the table, and all the American varieties. The collection of roses is the largest in the Union, and comprises 70,000 plants of 1,300 splendid varieties, embracing every novelty that could be selected from ten of the largest collections in Europe, and the plants are much larger than are usually sold. 10,000 magnolias, 3 to 10 feet. 20,000 Evergreen trees, of every class and size. 60,000 Hawthorns and privets, for hedges. 50,000 large Dutch asparagus, and 5,000 Tobolsk, Victoria, and leviathan rhubarb. Of ornamental trees they have above 200,000 of every size and class, including 1,000 splendid Paulownia Imperialis, 6 to 8 feet. The purchaser may save two years by the superior size of their trees and shrubbery.

Priced Catalogues sent to all post-paid applicants.

February, 1846.

HOVEY'S SEEDLING STRAWBERRY.

Price $1.50 per hundred plants, and $10 per thousand.

A. B. ALLEN, 187 Water Street, N.Y.

SHEPHERD DOGS FOR SALE.

Four very fine pups raised from an imported English dog and Scotch slut. Apply by letter, post paid, to Bn. Gates, 200 Broadway, N. Y. Or may be seen at the above place after 6 P. M.

IMPERIAL OATS.

A few barrels of these superior oats can be had of the subscriber. Price $4 per barrel, or 1.50 per bushel.

A. B. ALLEN, 187 Water Street, N.Y.

## SAXTON & MILES,

### BOOKSELLERS, PUBLISHERS, AND STATIONERS,

**No. 205 Broadway, New York,**

Would particularly call attention to their assortment of works pertaining to Agriculture and Rural Economy, a few of which are enumerated, with the retail prices, from which a liberal discount will be made when a number of works are ordered at one time, viz. :—

Townley on the Honey Bee. 50 cents.

The American Flower Garden Directory. Price $1.25.

The American Shepherd. Price $1.

Vols. 1, 2, 3, and 4, American Agriculturist. Price $1.25.

Johnson's Agricultural Chemistry. Price $1.25.

Ruschenberger's Horsemanship, Price $1.

Stock Raiser's Manual. Price $3.

American Farmer's Encyclopædia. Price $4.

Treatise on Cattle. Price $3.

Prince's Pomological Manual. Price $1.50.

McMahon's American Gardener. Price $3.50.

Hoare on the Vine. Price 63 cents.

The American Florist. Price 38 cents.

Parnell's Applied Chemistry. Price $1.

Ure's Dictionary of Arts, Manufactures, &c. Price $6.

Dana's Prize Essay on Manures. Price 12½ cents.

Fessenden's American Gardener. Price 80 cents.

Knowlson's Cattle Doctor or Cow Doctor. Price 25 cents.

Complete Gardener and Florist. Price 37 cents.

Buist on the Rose. Price 75 cents.

Prince on the Rose, *in press.*

Downing's Fruit and Forest Trees. Price $1.50.

" Landscape Gardening. Price $3.50.

" Cottage Residences. Price $2.

Lang's Highland Cottages. Price $1.50.

Every Lady her own Flower Gardener. Price 38 cents.

Mason's Farriery. Price $1.

Hind's Ditto. Price 75 cents.

Every Man his own Gardener. Price 12½ cents.

The Horse, its Habits and Management. Price 12½ cents.

Boussingault's Organic Nature. Price 50 cents.

Draper's Treatise on Plants. Price $2.50.

Agricultural Almanac. Price 6 cents.

The American Poulterer's Companion ; a practical Treatise on the Breeding, Rearing, Fattening, and General Management of the Various Species of Domestic Poultry, with Illustrations (fifty or sixty) and Portraits of Fowls taken from Life. By C. N. Bement. Price $1.25.

Clater and Youatt's Cattle Doctor, containing the Causes, Symptoms, and Treatment of all the Diseases incident to Oxen, Sheep, and Swine. Price 50 cents.

Essays on Practical Agriculture, by Adam Beatty, of Kentucky. Price $1.

The American Turf Register and Stud Book. By P. N. Edgar. Price $2.

Liebig's Agricultural and Animal Chemistry. Price 25 cts. each.

" Familiar Letters on Chemistry. Price 12½ cents.

Loudon's Encyclopædia of Agriculture (English). Price $10.

" Encyclopædia of Gardening. Price $10.

" Encyclopædia of Architecture. Price $14.

Bridgeman's Young Gardener's Assistant, new edition, much enlarged. Price $2.

The Farmer's Mine, being the most complete work on Manures ever published. Price 75 cents.

The Vegetable Kingdom, or Hand Book of Plants. Price $1.25.

Youatt on the Horse ; a new edition. Price $1.75.

Rural Economy. By Boussingault. Price $1.50.

Stable Economy, by Stewart. Revised by A. B. Allen. Price $1.

Johnston's Catechism of Agricultural Chemistry and Geology. Price 25 cents.

The Complete Farmer and Rural Economist, by Thomas G. Fessenden. Price 75 cents.

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## LAWRENCE'S TONGUELESS BUCKLE.

The Subscriber offers for sale the above patent buckle in any quantity, in all parts of the United States, except Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, and so much of New York as lies west of the Hudson river. The right to make the buckles for all Pennsylvania and New York belongs *solely* to the subscriber, and he will furnish buckles to all who own rights to sell and use in those two States ; and they *must* procure them of the subscriber. Persons in those two States, who wish buckles, must furnish to the subscriber a certificate of the patentee, that they own the right to sell or use. For an account in full of this buckle, which is superior to all others, see the American Agriculturist for Sept., 1845. The buckle being without a tongue, the trace is not weakened by cutting holes in it ; it is a compound lever, and holds the trace by pressure, and as the pressure condenses the trace it makes the trace stronger, just where the buckle having a tongue makes it weakest ; and the greater the draught the greater the pressure of the buckle on the trace. For buckles apply to Cornell, Brothers, 269 Pearl Street, New York.

THOS. HOLLIS.

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## LINNÆAN BOTANIC GARDEN AND NURSERY,

(LATE OF WILLIAM PRINCE, *Deceased*,)

*FLUSHING, LONG ISLAND, NEAR NEW YORK.*

The New Proprietors of this ancient and celebrated Nursery, known as PRINCE'S, and exclusively designated by the above title for nearly fifty years, offer for sale a more extensive variety of Fruit and Ornamental Trees, Shrubs, Vines, Plants, &c., than can be found in any other nursery in the United States, and the genuineness of which may be depended upon ; and they will unremittingly endeavor to merit the confidence and patronage of the public, by integrity and liberality in dealing, and moderation in charges.

Descriptive Catalogues, with directions for Planting and Culture, furnished *gratis*, on application POST-PAID, and orders promptly executed. WINTER & CO., Proprietors.

Flushing, L. I., Feb., 1846.

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## COUNTRY RESIDENCE.

The house, garden, and outbuildings of the late Mr. William Cleveland, are offered for sale at a great bargain. The situation is a most desirable one for a person having children to educate, being within a few rods of an excellent high school, in the First Society of the town of Norwich, Conn. The house will accommodate a large family, or two small ones, having two kitchens, two gardens, &c., &c. The water is excellent both for drinking and washing. For particulars inquire of Henry Strong, Esq., or George D. Fuller, of Norwich, Conn., or

A. B. ALLEN, 187 Water Street, New York.

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## FASTOLFF RASPBERRY.

The Subscriber has just received a fresh supply of the above valuable Raspberry, esteemed in England superior to all other varieties. The fruit is very large, of rich flavor, and bears abundantly. They are ready for delivery as follows :

Package containing 25 canes, $5. Containing 12 canes, $3.
Single canes, 30 cents. These are warranted true to name.

Also for sale, a choice collection of green-house and stove plants.

Orders addressed to the undersigned will receive attention, and from unknown applicants a remittance or satisfactory reference is required. JACOB R. VALK.

Horticultural Gardens, Flushing, L. I., N.Y., January 1, 1846.

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## IMPROVED STOCK FOR SALE.

The subscriber breeds on his farm for sale, the following animals of the choicest kind, viz. :—

Durham Cattle,
Devon do.
Cotswold Sheep,
Southdown do.

His farm is large, and his herd and flocks numerous, which enables him to give an excellent choice. He is paying particular attention to the *milking* qualities of his cattle, both among Durhams and Devons. His sheep also are not only bred for fine forms and strong constitution, but heavy, thick fleeces of a good quality of wool. His residence is two-and-a-half miles from Buffalo, and is reached in ten minutes by railroad.

*Black Rock, Erie County, N.Y.* LEWIS F. ALLEN.

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## FOR SALE OR EXCHANGE.

I offer for sale my farm of 300 acres and upwards, near the village of Salem. It produces well either grain or grass. The buildings are all that are necessary, and together with the land itself and fences, are all in good order. The garden is well stocked with small fruits and flowers. The situation is pleasant, the country healthy and beautiful. Price $10,000.

This property would be exchanged for real estate in any of the Southern States, change of climate being desirable.

Salem, Washington County, New York. JOHN SAVAGE.

## DUTCHESS AGRICULTURAL INSTITUTE.

The undersigned, on the 1st of April next, will open at his place of residence, known as the Wilkinson Premium Farm of Minor Vale, Dutchess Co., twelve miles east of the village of Poughkeepsie, a School, designed for the instruction of young gentlemen in every department of practical and scientific Agriculture. The Farm contains 220 acres of land, embracing a great variety of soil. The location is pleasant and healthful, and for the supply of water, as well as for abundance and variety of fruit, it is surpassed by few in the Union. Every provision and effort on the part of the Proprietor will be made for securing ample means of acquiring a thorough knowledge of Agriculture in the most enlarged sense, by the use of the most modern improved Farm Implements, a select Farmer's Library, numerous Agricultural periodicals, and instruction in all the Academic studies—lectures on the Natural Sciences—Also, all other reasonable means of exciting in the minds of the pupils a desire for the acquisition of all knowledge pertaining thereto. To that end, all labor performed by the pupils will be under the immediate supervision and direction of the Principal, who will, during the hours of labor, endeavor to instruct his pupils by example as well as precept. A course of Lectures will be delivered on each of the domestic animals, commencing with the Horse, during which a perfect Anatomy will be at hand, having been already obtained. The pupils will be required to attend Divine Service on the Sabbath. There are within a short distance, Presbyterian, Baptist, Methodist, and Friends' Churches. A conveyance will ply, regularly to and from the steamboat landing, Poughkeepsie, on Wednesday and Saturday of every week, for the conveyance of the mail and passengers, and the general convenience of the Institute. Terms—$200 per annum, payable semi-annually, in advance.

Those desirous of availing themselves of the advantage of this Institution, are requested to make immediate application, as but a limited number of pupils will be received for the first year.

A good common school education, and good moral character, will be requisite in order that a young man may be admitted into this Institution.

References.—The Trustees of the American Institute, and Jno. L. Mason, Esq., New York.

JOHN WILKINSON, Principal.

Address Poughkeepsie, Dutchess County.

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## COMMERCIAL GARDEN AND NURSERY
OF
## PARSONS & CO., FLUSHING, NEAR NEW YORK.

The Proprietors desire to call attention to this extensive Establishment, now one of the largest in the Union, covering an area of more than fifty acres, and compactly planted with every desirable variety of Fruit and Ornamental Trees and Shrubs.

Their Fruit Trees they can recommend as being straight and thrifty; of undoubted genuineness, as to variety, which they ensure by close personal attention to propagating from the most reliable sources and from bearing trees; and also as being, from the well-ripened state of the wood, peculiarly adapted to higher latitudes.

To those who are in need of Ornamental Trees and Shrubs, they can with confidence recommend their assortment, as embracing, together with the old standard varieties, many new species, selected personally by the Proprietors, from the principal Horticultural Establishments of Europe, whence they are receiving constant additions.

Orders may be addressed to the Proprietors at Flushing, New York, and Catalogues can be obtained by application to themselves, or to A. B. Allen, 187 Water Street, or to Parsons and Lawrence, 129 Pearl Street, New York.

Flushing, N.Y., 2 mo., 1846.

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## COUNTRY SEAT AND FARM.

For Sale.—A Farm and beautiful Country Seat, at Flushing, L.I., one mile from the steamboat landing—containing about sixty acres of land, under the best state of cultivation, having a fine view of the bay and surrounding country. On the premises are a two story dwelling-house (handsome interior), marble mantels and folding doors, containing ten rooms, large garret and cellar, with kitchen, washroom, and milkroom—attached, two large barns, carriage house, stable, and other outbuildings—also gardener's and farmer's cottages. The gardens are tastefully laid out with fruit and flowers, upwards of 100 peach trees, and over 250 specimens of fruit trees of various kinds, large green house, hot-house, pots, &c., &c., and one of the most splendid vineries of its kind, in this country or in Europe, 186 feet long, and 22 feet wide, with span roof, containing 162 superior foreign Grape Vines, of 21 varieties, and 40 Peach, Nectarine, Apricot, and Greengage trees, on arched trellises in the centre, bearing large fruit. The vines commence bearing this summer. Further description is unnecessary, as persons disposed to purchase, will view the premises. The facilities of communication between Flushing and the city, both by steamboat and stages, are too familiar to need description.

For terms of sale, which will be reasonable and accommodating, apply (if by letter post-paid) to W. H. Franklin & Son, Broad Street, New York, or to the subscriber at Flushing.

JACOB R. VALK.

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## THE AMERICAN AGRICULTURIST.

Published Monthly, by Saxton & Miles, 205 Broadway, New York, containing 32 pages, royal octavo.

TERMS—One Dollar per year in advance; three copies for Two Dollars, eight copies for Five Dollars.

When Agricultural Societies order the work for distribution, among the members, the price will be only FIFTY CENTS a year, for the Monthly Numbers, and SEVENTY-FIVE CENTS per copy for bound volumes. It will be expected that these orders come officially, and be signed by the President or Secretary of the Society. The object in putting our periodical at this very low rate is, to benefit the farming community more extensively than it could otherwise be done. We hope, henceforth, to see the Agriculturist in the hands of every Farmer and Planter in the country.

Each number of the Agriculturist contains but One sheet, and is transported by mail under the same regulations as newspapers, viz.: *free* any distance not over 30 miles from its place of publication; over this and within 100 miles, or to any town in the State of New York, *one cent* postage on each number, and *one and a half cents* if over 100 miles, without the State.

Editors of newspapers noticing the numbers of this work monthly, or advertising it, will be furnished a copy gratis, upon sending such notice to this office.

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## DURHAM BULL FOR SALE.

Not having sufficient use for him, the subscriber offers for sale his thorough bred imported bull, Prince Albert. His sire was the celebrated bull, Sir Thomas Fairfax, and his pedigree can be seen in the British Herd book, Vol. 4, page 382. He is five years old, a red roan, of medium size, and of quiet temper. If not previously disposed of, he will be offered for sale at the next show of the New York State Agricultural Society.

Letters on the subject can be addressed to the subscriber at Rex Hook, Dutchess County, New York, where the bull may be seen.

ROBERT DONALDSON.

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## PERUVIAN GUANO AT REDUCED PRICES.

The subscriber keeps this superior fertiliser constantly on hand for sale, in bags, barrels, half barrels, and kegs. It comes direct from the Agent of the Peruvian Company, and is warranted genuine and of a first rate quality.

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|---|---|---|
| Price for ten tons or more | 2 | cents per lb. |
| " five and under ten tons | 2¼ | do. |
| " two " five | 2⅜ | do. |
| " one " two | 2½ | do |
| " half " one | 2¾ | do. |
| " less than half a ton | 3 | do. |

This Guano is packed in bags weighing from 120 to 150 lbs.; barrels, from 220 to 250 lbs.; half barrels from 115 to 130 lbs; kegs about 60 lbs. each. When a larger quantity than one ton is taken, it is expected it will be in bags. No allowance for tare, and no charge for packages. Cartage extra.

A. B. ALLEN, 187 Water Street, N. Y.

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# AMERICAN AGRICULTURIST.

*Agriculture is the most healthful, the most useful, and the most noble employment of man.*—Washington.

VOL. V. NEW YORK, MAY, 1846. NO. V.

A. B. Allen, Editor. Saxton & Miles, Publishers, 205 Broadway.

## TO CORRESPONDENTS.

The edition of our paper is so large now, that we are obliged to close our columns early in the preceding month, in order to get it printed and sent off promptly at the time of its date. We wish our correspondents hereafter to bear this particularly in mind; and if their favors do not reach us at least three weeks in advance of the first of the month, there is no certainty that they can be inserted in that number of the paper, but may lie over till the succeeding month. Those unaccustomed to edit a periodical of this kind, cannot estimate the importance of an editor's having his matter in hand, and all prepared, at least one month in advance of publication. In consequence of not getting articles in season, we are frequently obliged to let them lie over nearly a year, much to our own regret and that of correspondents. Advertisements must be sent in as early as the 15th of the month in advance.

## JERUSALEM ARTICHOKE.

This root is cultivated precisely like the potato, in hills or drills. At the South and West it is fed off by turning swine on to the fields, who root them up and consume them at pleasure. A winter's supply of food is thus easily provided for their hogs, and the crop fed off the land greatly enriches it. The artichoke is considered one of the best of fertilizers, as it derives a large amount of its carbon and nitrogen from the atmosphere. They should be cultivated extensively in well grown orchards, as they do well in the shade, pulverize the soil without exhausting it, and leave it in a good condition for growing trees. After the fruit is gathered turn the swine on to feed them off. Rooting them up is nearly as beneficial as plowing; at the same time the swine destroy nearly all the insects harboring round the trees, and the manure they leave is equivalent to a good top-dressing. The artichoke is a delicious table vegetable, pared and cut up raw in thin slices with vinegar added to it. Many are also fond of it boiled and mashed like turnips. Frost does not injure the roots, and after the first planting they will propagate themselves. The roots of the Jerusalem are ill-shaped, rather large, and of a pure white color. The kind of artichoke bearing a root with pink streaks or spots on the flesh part, is not as good as the Jerusalem. They grow well in the poorest land.

## CULTURE OF CABBAGE.

The cabbage crop is a very important one in the vicinity of cities, and immense quantities are raised there; but we doubt whether as much attention is paid to the culture of this vegetable on the farm as there should be, considering its importance as food for both man and beast. It is true that in consequence of the severity of the weather of the Northern States (cabbage being a very watery vegetable), it is not as profitable to feed to stock as in the milder winter climate of Great Britain; and, in addition to this, it is more difficult to keep with us, and more difficult to store. Nevertheless, for food for cattle, as the frost cuts off the grass in the autumn, and before the severity of the winter sets in, few vegetables excel it. Then, such an immense quantity can be raised per acre where the ground is favorable for the crop, and it is so easily cultivated, it is quite an inducement for those who have but a small quantity of land to devote a few acres to it.

There are various methods of cultivating the cabbage; for the field, with the larger variety, however, we prefer planting them in hills two and a half to three feet apart each way, it is so much easier using the cultivator among the plants, and thus saves the tedious process of hand hoeing. It is a general rule to sow the seed in beds and then transplant. A recent and much superior practice is, to sow from three to five seeds in the places where you wish one plant to grow. In this case the largest and most thrifty plant only is left standing. After it gets three to four weeks old, the other plants are pinched off or broken down. Grown in this way the heads are said to be much larger and finer than when the young cabbages are transplanted, as it is contended that however carefully the process may be performed, the plant receives a check in its incipient state which it never entirely recovers. There is reason and philosophy in this, and we should be glad if those engaged in the culture of cabbages would make experiments the present season between different rows, side by side, sowing the seed as above, and in the usual method, and then transplant.

## DEAD ANIMALS.

At all seasons of the year dead animals are to be seen hung up on fences and on trees; and especially is this the case in spring. On every farm where sheep are kept, dead lambs are suspended in the beautiful, blooming, and fruit-bearing orchards —how shocking!—to annoy the sight and smell, and waste the farmer's means. Dogs and cats too are frequently hoisted into view in the same annoying and disgusting manner. If horses, cattle, sheep, or hogs die, they are drawn out of sight, but not out of smell, and are still sources of disgust. Why is all this? If the farmer be so unfortunate or so negligent as to lose an animal, should he be so wasteful as to permit the carcase to decay uselessly in the open air, to the great annoyance of his family and every passer by? Does he not know that animal matter is the best and richest of manure? Animal matter contains every element that is necessary to grow every plant known. In it are phosphate and carbonate of lime, ammonia, carbon, in short, in the best form, all the essentials of vegetable growth. Its putritive power is great, and if added to the compost heap hastens fermentation, and adds greatly to its richness. Whenever a fowl, cat, dog, sheep, pig, horse, or cow dies, let the carcase be cut up, and the bones broken, and the whole added to the manure heap. The carcase of a single horse will turn loads of useless muck or peat into manure, richer than any ordinary barn-yard dung. Why then suffer it to decay uselessly and annoyingly? It is true it is not lost, for the gases that taint the air are appropriated by plants; but the farmer who owned the animal gets but a small portion of what should be all his own. Why, then, will he waste the *dead energies* of the horse, when he has lost the *living* ones? If our readers will heed what we say, they will not suffer dead animals to annoy the eye and disgust the nose hereafter. Bury them in the manure heap; add some lime to quicken decay, and charcoal dust or plaster to absorb the gases, and much will be gained to the good appearance of the farm, the quality of the manure, and the quantity of the crops grown; and much to the purse of the farmer. If your neighbor be so improvident as to waste a dead animal, beg it of him, that it may not be detrimental to health and useless to vegetation. Laws should be passed to compel the saving and use of this most powerful of fertilizers, when common sense and decency fail to do it.

Whenever it is desirable to hasten decay, and rapidly turn animal matter into manure, sulphuric acid may be used. This would be too expensive (although the acid is cheap) for farm purposes, but may be employed for the garden, where expense is not so important. It is frequently desirable to have a rich manure in the garden, and it is not at hand. Animal matter put into sulphuric acid will in a few hours furnish it. Every house will supply much refuse animal matter. To this rats, mice, moles, feathers, hair, bones, horns, &c., may be added. If the garbage of a slaughter-house can be got, it should be. All these will soon be reduced to an available state, be inoffensive, and will add great fertility to the soil where used. The requisite quantity of acid may be ascertained by experiment—about 10 or 15 lbs. is usually allowed for 100 lbs of animal matter.

## A LESSON ON PLOWING.

Visiting the farm of Edward J. Woolsey, Esq., at Hellegat Neck, one day the past month, we were conducted over it by his manager, Mr. Samuel Pate. He has just begun his operations there, and will one of these days make it one of the most productive places that adorn this neighborhood. He showed us a field of about twelve acres, the most thoroughly sub-drained of anything we have yet seen in the United States. It was originally a deep morass; now it is a firm, dry, meadow. But as we hope to be favored with an account of the operation from Mr. Woolsey himself one of these days, we forbear further observation upon it.

Mr. Pate is a Scotchman, and having several Scotch plowmen, with Scotch plows at work, to gratify our curiosity he invited us to see them operate. The work was not done for show, but was such as characterizes the every day operations of good plowmen in Scotland; and if all were not as well done at home, they would be dismissed by their employer for awkward workmanship. The field in which we found the men at work was about 40 rods long, of a rich loamy soil, and coated with a tough old sward. Here the men set in and run their furrows from end to end, as straight as one could draw a line, turning them 6 inches deep, and 11 inches wide, slightly lapped, and packing them up one after the other all day long, with a single pair of horses, each plowman driving his own team, and not varying throughout their work, as we could discover, a single inch in the thickness or width of their furrow slices. We have seen as good plowing in Great Britain, but never anything like it before, as a whole, in the United States, though we have often been present at the most celebrated plowing matches. There were no snake trails, or ram's horns here, or half-turned sods, or untouched ground, or skipped places; but the whole was as thoroughly and evenly done as it would be possible to accomplish with the most careful spading, and when harrowed with the fine double harrow, the surface of the field had the appearance of a *well-dug* and *fine-raked* garden.

People may say what they please, yet we contend that good plowing is not only the first, but the most important part of the operations on the farm, and without it nothing else can be thoroughly well done for the crop. It would be well for our farmers if they would take lessons on plowing, at least so far as to enable them to draw straight lines (for these are rarely seen in the United States), and stir and pulverize the ground well. We should be glad to get hold of the plow handles ourselves under Mr. Pate's instruction, and only regret that our numerous avocations elsewhere prevent our doing so; but as it was, we did absolutely stay long enough to *turn a short furrow;* yet, in comparison of those of the canny Scotchmen, we will candidly acknowledge it did not do us much credit. Our readers, however, will please bear in mind that we are now somewhat out of practice, and that we are unluckily more at home with the pen just at this moment than with the plow handles. We trust this will not always be the case.

One of the men whom we saw at work there is desirous of obtaining a permanent situation as a farmer. We were witnesses of his plowing, and can recommend that, and as for the rest we will refer to Mr. P. Any one employing him might be sure of one thing on his farm, and that is—*straight furrows.*

## BUSH PULLER.

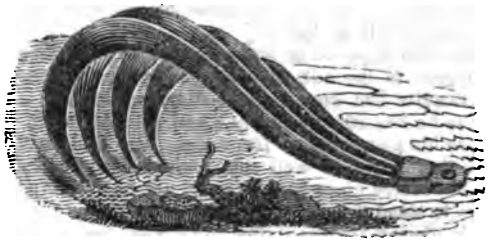

Fig. 40.

**This is a very useful implement to attach to bushes, clumps of roots, and bogs, for the purpose of pulling them out of the ground. It is made with two, three, or four claws. These are hooked to the bush close to the ground, an ox-chain is then hooked into a hole at the other end of the puller, the cattle attached, when the bush and roots are easily hauled out. It also answers very well pulling out small stumps. It will do the work of half a dozen men in clearing and grubbing. Price $3 to $4.**

**Dutton Corn.—Mr. Frederick Plumb, of Salsbury, Conn., says that he received an ear of corn from a friend, who said it was from the Rocky Mountains. The grains of this ear were covered with a husk. He has improved it by cultivation, and thinks it will soon be entirely free from husk, and will be in perfect resemblance of the Dutton corn, which Mr. Plumb esteems as the best kind for the Northern and Eastern States. He planted, a few years since, ten acres of Dutton corn, ten acres of the yellow eight-rowed, ten acres of the twelve and fourteen-rowed white, and ten acres of eight-rowed white. The Dutton proved a much better crop than either of the other varieties. Next to the Dutton, Mr. P. prefers the eight-rowed yellow.**

We are in want of a first quality of Dutton Corn for seed. Who has it for sale?

## NURSERIES OF MESSRS. HOVEY & CO.

We visited these extensive nurseries last July. They are situated in West Cambridge, a few miles out of Boston, and contain upwards of 35 acres of a great variety of soil, from a light sand to a heavy loam, lying upon a substratum of heavy clay, varying in its depth from 2 to 10 feet from the surface. This substratum is of great service to the nursery, as a sufficient quantity can be brought up any time by the trench plow or deep spading, to temper the surface soil to such a consistency as to suit any variety of shrub or tree; and the ground being thoroughly sub-drained, the operations of the nursery are never impeded by an excess of moisture. The ground slopes from the south-west to north-west, and is exposed to all the cold winds of the country, which the Messrs. Hovey think is quite an advantage in enabling them to rear hardy trees.

Mr. C. M. Hovey has recently returned from an excursion to Europe, a very interesting account of which he has published in a series of numbers in his Horticultural Magazine. While abroad, he made arrangements to add largely to their collection of fruits, &c. Especial attention is given here to pears, they having the enormous number of 400 to 500 different kinds, from every good source in Europe and in our own country, for the purpose of testing their genuineness and qualities. Some of these we saw in bearing, and very fine specimens they were. We think they will have some new and choice ones for sale in a year or two. It is their intention to reject the indifferent, and propagate the good varieties only. We noted several other kinds of choice fruit trees here, among which are the May and new and black Bigareau cherry; the Icknorth, Imperatrice, Fellemberg, Royal Nouvelle, Thomas, and other plums; Fastolff raspberry, Victoria currant, &c., &c. We found the Victoria rhubarb here of immense size, and of fine quality. This, with Downing's seedling, which is an earlier variety, are considered the only two sorts now worth cultivating by those who desire a superior quality of food.

The Messrs. Hovey are very careful about their work in the nursery, never using the plow or the cultivator, but instead of these implements, the spade. They think that they can thus bring forward their trees in a superior manner, the ground is so much better worked. As we have no experience in this matter, we must leave nurserymen to decide for themselves which are the best implements for their use.

They have originated another seedling strawberry, which they call the Boston pine. It is of fine flavor, though not so large as the Hovey seedling.

The green-house department here is very extensive. The large conservatory, or show house, is of a chaste, neat architecture, 84 feet long, 22 feet wide, with a span roof, and well constructed throughout, being one of the most expensive in the country. Another large house is 84 by 25, with a span roof. Besides these there are some smaller houses, making a rich and varied display of plants. The camellias were worthy of all admiration.

upwards of 2,500 varieties of the best foreign and native, some of the largest of which we noted were 8 to 10 feet high. Nor was less attention given to roses. Here we found 1,200 varieties, the most superb of which we thought was La Reine—worthy indeed of being the queen of her species. Messrs. Hovey & Co. have taken the first premiums of the Massachusetts Horticultural Society for three years past, for the best show of rare roses, and if we may be permitted to judge by what we saw here, they well deserved them.

Mr. C. M. Hovey politely conducted us over the premises, and pointed out many other things worthy of notice; but we regret to say, that the weather was excessively hot, and we had been so greatly fatigued by several other excursions during the day, before reaching these nurseries, that we felt little inclination to take notes, and have doubtless forgotten many things which we ought to mention. Yet this we remember, he has recently built a beautiful pointed Gothic cottage, and is now tastefully adorning the grounds around with choice flowers and shrubbery, and within this we were hospitably entertained, and shown one of the best horticultural libraries we have seen in this country. Many of the works are rare, and others exceedingly rich and gorgeous in exquisite colored engravings, of superior fruits and flowers. Mr. Hovey is the editor of the Horticultural Magazine, published in Boston; a work too well known and highly regarded by the public to need any further notice of ours.

These gentlemen have an agricultural implement and seed store in Boston, where they do an extensive business in their line. With all these varied occupations they doubtless have a pretty active life of it, and we can only hope it may prove as profitable to them as busy.

## PARING PLOW.

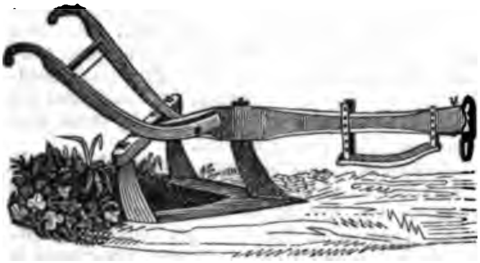

FIG. 41.

THIS plow is used for paring turf lands preparatory to burning. The share is thin and flat, made of wrought iron, steel-edged. It has a lock-coulter in the centre, and short coulters on the outward edge of each wing of the share, cutting the turf as it moves along into two strips about one foot wide, and as deep as required, there being a sliding apparatus put on the end of the beam instead of a wheel to regulate the depth of cutting. This is much preferable to a wheel for this particular purpose. After the turf is pared off into strips, men follow with sharp spades and cut it into suitable lengths, say of two or three feet. These pieces they then throw into heaps after drying of which they are burned, and the ashes spread broad-cast on the land. Paring and burning is a very ameliorating process for stiff clay soils; it changes their mechanical texture almost entirely, and renders them friable and suitable for cultivation. The paring plow is also an excellent implement for cutting off meadow-hogs and grass bunches, and turf for covering a grass plot.

## AMERICAN AGRICULTURAL ASSOCIATION.

SINCE our last the Society has had two meetings per month, instead of one. At that on the 18th of March, Mr. Pell moved that a Horticultural department be connected with the Society to make exhibitions, and stated that they would be well supplied and patronized, if premiums be offered to the amount of $400 or $500, and fruits, flowers, and vegetables be included in the exhibitions. The money necessary might be expected to be advanced by members, as the constitution does not allow the Society to appropriate money not in the treasury. A similar Society was commenced in Boston a few years ago, from humble beginnings, and the income of the exhibition the past year is said to have been $18,000.

The resolution was adopted, and the following Committee appointed to carry it into effect:—R. R. Delafield, S. T. Jones, Alex. H. Stevens, T. A. Emmet, Wm. S. McCoun, Hugh Maxwell, J. F. Sheafe, Shepherd Knapp, E. K. Collins, James Boorman, Jas. Lenox, Ambrose Stephens, R. B. Parsons, and R. L. Pell.

Mr. Van Epps made some further explanations in regard to the silk business, showing that the multicaulis had done well in Washington, D. C., where he had 20 acres set out, and intended to increase his plantation to 100 acres. Dr. Underhill said that however well this variety of mulberry might succeed elsewhere, it could not be depended upon to stand the rigor of the New York winters.

Mr. Seeley addressed the Society on the influence of electricity on vegetation, and thought that the causes of failure were owing to the erroneous manner of applying it to growing plants.

At the meeting on the 1st of April, various grafts, seeds, and vegetables were offered for distribution among the members. Of the latter there were some fine large stalks of the pie-plant from Mr. Pell, who said that by selecting roots in the fall and placing them in the loam under the shelves of the green-house, you can have a supply of this plant from the latter part of February to June—whereas it is now to be had only during the latter month.

Dr. Gardner presented from the publishers, the Messrs. Harper, a copy of his Farmers' Dictionary.

Chancellor McCoun, having been called to the chair, read the report of the committee to whom was referred the offer of Gardner Howland, Esq., of his farm on Long Island, for the use of the Society. The report takes the ground that the Society is not sufficiently advanced at present in its means and resources to safely assume the responsibility of managing a farm; and that it will be advisable, in the present stage of its career, to confine its labors to the investigation of new truths, and the elaboration of important principles—leaving their practical application to individual enterprise. The report expressed the hope that hereafter, when the Society found itself more completely established in all its departments, enriched in resources, and protected by legislative incorporation, it will be enabled to add to its other endowments a pattern farm. The report, with its accompanying resolutions, was adopted.

Dr. Stevens made some observations respecting the use of whale oil soap, and stated that much injury had resulted from its application to trees, by the too great acceleration of their growth. As to the worms, no liquid was efficient against them, for they deposit their larvæ under the inequalities of the bark. A solid coating was, in his opinion, the only efficient protection. Dr. Underhill had found security in scraping his trees in the winter with a dull hoe [a scraper for this purpose, such as is found at the agricultural stores, would be better], and then paint them with soft soap, and afterward he had found a solution of potash—a pound to six or eight quarts of water—answer every purpose.

Gov. Edwards, of Connecticut, then was called up, and gave a very interesting account of his raising an entensive variety of early and late pear trees from the seed. He recommended that fruit trees should be raised in this way, and stated the probability that the race of a tree became, in a certain number of years, enfeebled and finally extinct, and it was therefore necessary to renew the trees from the seed. [We consider this false doctrine entirely. If fruit trees are properly taken care of they will never run out, any more than animals or man himself.] He had also planted the seeds of the two native species of grape—fox and frost—from which he had raised a great variety of fine fruit. Altogether, cultivating the native fruits of this country had been too much neglected, and he earnestly recommended it as being among the subjects most worthy of attention. Dr. Underhill agreed with Gov. Edwards on the necessity of cultivating American fruit, especially in regard to grapes. Foreign grapes, except under glass, cannot be cultivated in our climate. The winter freezes them and the summer scorches them to death. All the hundreds of thousands of dollars expended in the experiments with foreign grapes had been literally thrown away; and yet there were nurserymen, who knew better, every spring advertising and selling foreign grape-vines which they promised would flourish in our soil. They ought to be and should be exposed. In regard to American grapes, they had already been much improved, and would doubtless improve for a hundred years to come. He had himself produced Isabella and Catawba grapes, which had been pronounced good by Frenchmen, Spaniards, and Italians; and they were now beginning to lay out vineyards for these varieties in Spain, France, and Germany. When we began to import them, Americans would doubtless find them of exquisite flavor!

Some further remarks were made on the subject of grapes, pears, &c., by Gov. Edwards, Dr. Mason, and Col. Clark. Dr. Gardner eloquently defended the European grape, and stated that it was a superior fruit when found wild, which was not the case with the American grape. His opinion was that the Isabella and Catawba were hybrids.

At the meeting on the 15th of April, the Corresponding Secretary, Mr. Green, read a letter from Baron Von Spech, of Upper Bavaria, accompanied by a treatise on sheep and another on hops, written by that nobleman.

Mr. Howland presented a basket of large, delicious strawberries, perfectly ripe, and of the most exquisite flavor and fragrance—together with a plant containing the berry in all stages, from flower to ripe fruit. They are the monthly strawberry. Mr. Howland received the plant from Mobile about eighteen months since. The plant is very healthy and vigorous, and bears luxuriantly.

Mr. Bradish presented for distribution and experimental planting a small parcel of potatoes from Ocaña, a table land in the highest part of New Grenada, S. A., and in about 30° lat. N. They were dark in color, and of small size.

Mr. Griffin detailed some experiments he had made last summer with various kinds of manure upon corn. He planted corn with guano, poudrette, stable-manure, and ashes. That with guano was far the best, poudrette next, and ashes last. Some of the corn which he had soaked thirty-six hours before planting, in guano-water, grew the greenest and thriftiest; but he did not know that it yielded any more than that guanoed in the hill. The ground was clayey, and not particularly adapted to the potato.

Mr. Howland had tried an experiment with corn last year. He divided a ten-acre lot into three sections. The first he gave a top-dressing with stable manure planting; the second lime before plowing; the third he first plowed and then dressed with lime. This he found to be decidedly the best.

Mr. Lawrence exhibited a model of his newly-invented park-gate, which can be opened without dismounting. It is very ingenious and simple, and must work well.

Dr. Gardner mentioned that some noise had been made in this country regarding a new kind of provender used in Germany, and which was said to be far more nutritious than any other kind of green fodder, not excepting clover. This was known under the name of spurry, and in several instances persons had sent to Europe for the seed. This was quite unnecessary. The plant is indigenous here, and well known to farmers as infecting corn and wheat fields. It is known as corn spurry; and if even half the wonders told of its nutritiousness by our friends in Germany be correct, it is worthy of attention by our farmers. At the Doctor's suggestion, a committee was appointed to make some experiments on this subject. After some little farther business, the Society adjourned, to meet on the first Wednesday evening in May.

* * *

MANURE.—Cart out all the manure on your premises as fast as possible, and spread it broadcast upon your grass lands or plow it under for hoed crops. It is fast losing its most fertilizing portions in the sun and rain, and the sooner you get it on to your lands and covered up, the better. If left to rot in the barn yard it fertilizes the air, and passes into your neighbors' crops at the expense of your own. No good farmer will neglect his manure heap—it is his mine of wealth

## DISEASES OF POULTRY.

Being a subscriber to the Agriculturist, and seeing a great many articles on the breeding, rearing, and diseases of poultry, I thought I would relate an experiment I made on a fowl of the Poland breed, if you saw fit to publish it for the benefit of those who may have fowls afflicted in the same way.

I noticed one of my hens drooping for two or three days, and when I went to feed the fowls, she would not eat. I therefore concluded something must be wrong. I took her up and found her crop perfectly full. I then came to the conclusion that she was crop-bound, and she might get over it in a day or two; but she continued to get worse, and was now in the last stage of existence. I now made an incision through the breast, into the crop, of an inch long, when I found the passage from the crop to the gizzard completely stopped up. I removed that, took two stitches in the crop, kept the hen in a warm place for a week, fed her on warm, light food, and she is now as well as any fowl I have. This happened about three weeks ago. H. T. Lloyd.

*New York, No. 3 Prince st., Feb. 4, 1846.*

We knew an instance of a valuable hen being in the same predicament as the above, from swallowing a large piece of India rubber. She was cured by making an incision in her crop, and taking it out. There is no danger whatever in performing this operation, provided the incision is immediately sowed up, and the fowl properly cared for till well. Fowls, both young and old, are very apt to overstuff their crops, especially when they get their food irregularly, and we have no doubt that many more deaths arise from this cause than is generally supposed.

## SALT.

*Its value as a fertilizer—its supposed efficacy for the Potato disease.*

The value of salt for agricultural purposes has long been known both in Europe and in this country, and why it has not been more generally used is beyond my comprehension. More than one hundred and fifty years ago, Sir Hugh Platt, an eminent writer of the day, speaks very decidedly of the benefits which might be derived from the practice of sprinkling salt upon land, and calls it "the *sweetest*, and *cheapest*, and the most *philosophical* material of all others." He relates the case of a man, who in passing over a creek on the sea-shore, suffered his sack of seed-corn to fall into the water, and that it lay there until it was low tide, when, being unable to purchase more seed, he sowed that which had lain in the salt water, and when the harvest time arrived, he reaped a crop far superior to any in the neighborhood. The writer adds, however, that it was supposed the corn (grain) would not fructify in that manner, unless it actually fell into the sea by *chance;* and, therefore, neither this man, nor any of his neighbors, ever ventured to make any further use of salt water! [So much for superstition! Ed.]

That salt is an excellent manure, experience, the most satisfactory of all evidences, clearly proves. It is stated in an English publication, that "a farmer in the county of Sussex, some years since, had a field, one part of which was very wet and rushy, and that the grass produced upon it was of so sour and unpleasant a kind, that the cattle would not graze upon it; he tried several methods to improve it but to little purpose; at last hearing of the benefits of salt as a manure, he determined to try that; for which purpose he procured a quantity of rock salt, which, in a random way, without any regard to the precise quantity, he threw upon the rushy ground, fencing it off from the other part of the field, the effect of which was a total disappearance of every kind of vegetation. In a short time, however, it produced the largest quantity of mushrooms ever seen upon an equal space of ground in the country. These, in the spring following, were succeeded by the most plentiful and luxuriant crops of grass, far exceeding the other part of the field in richness of verdure and quickness of growth; the cattle were remarkably fond of it, and though the salt was laid on it twenty years before, this part is still superior to the rest of the field."

From the information which I have been able to collect, I am inclined to believe that salt, when sparingly applied, is valuable as a fertilizer, and useful in killing the grub and wire worm, which often injure, and sometimes even destroy, whole crops; and it has been found by experiments the past season, that the scab or disease which has proved so disastrous to the potato crop in all sections of the country, has not been found upon land that had a proper dressing of salt.

Judge Hamilton, of Schoharie, informed the writer, that he had found great advantage from using salt on his potato ground last spring. After plowing, he caused four bushels of salt to be sown on the furrow, upon one acre of the field, and harrowed in. Potatoes were then planted. Part of the field was not salted. Although the season was remarkably dry, the salted acre was observed to maintain a green vigorous appearance, while the other part of the field looked sickly and stunted. On lifting them in the fall, those potatoes, where salt was applied, were of good size, smooth skin, sound, and of good quality, and yielded a fair crop, while of those on the unsalted part of the field, although the soil was fully equal to that of the salted portion, the yield was considerably less, potatoes small, and much eaten by worms. His neighbor had a field of potatoes on the opposite side of the road, soil similar to his own, who planted them in the usual way; the consequence was, his crop was small in size, inferior in quality, and most of them rotted soon after digging—they were diseased.

Doctor Bogart, who has charge of the Sailors' Snug Harbor, on Staten Island, informed me that he applied four bushels of salt to one acre of his potato ground, last spring, and thinks he derived great benefit from it. Though the crop was not a large one, the potatoes on the salted portion were of much better size, skin smooth, and free from disease. The vines were more vigorous, remained green, while those on land of the same quality adjoining, which was not salted, shrivelled and died prematurely; the potatoes small and soggy, and produced less.

C. W. Johnson, a distinguished agricultural writer, strongly recommends salt as a manure, at the rate of from ten to twenty bushels to the acre, to be sown two or three weeks before the seed is put into the ground. He says the benefits are as follows: "1st, when used in *small portions* it promotes putrefaction. 2d, By destroying grubs and weeds. 3d, As a constituent on direct food. 4th, As a stimulant to the absorbent vessels. 5th, By preventing injury from sudden transitions of temperature. 6th, By keeping the soil moist."

It would seem from all the facts I have been able to collect, that salt corrupts vegetable substances when mixed in small quantities, but preserves them when it predominates in a mass; that, in dry seasons, its effects are more apparent, and whether it attracts moisture from the atmosphere, or whether it acts as a condiment or stimulant, is of little consequence, so long as its effects are certain.

On account of the small quantity of salt, in weight, required for manuring lands, it is no inconsiderable recommendation, because, on that account, it may with ease be conveyed to the most rough, steep, and mountainous parts, to which the more bulky and heavy manures most in use could not be carried, but with infinite labor, and at an expense far exceeding all the advantages to be effected from it.

Salt alone is considered by some rather too severe and harsh in its nature; but mixed with ashes, say six of salt and ten of dry ashes, well beat up together, which is sufficient for an acre, and spread upon the furrow and harrowed in, one particle incorporates and mollifies the other, and if conveyed into the earth by a soapy, smooth method, will prove the real enricher the earth wants, to send forth vegetation. C. N. BEMENT.

*American Hotel, Albany, April, 1846.*

## SOUTHERN CROPS AND CULTURE.—No. 2.

THE main crop in this section is cotton, generally; it takes up about two-thirds of the cultivatable labor of the farm. I presume, as the leaf is large, thick, and hairy, the stalk also being hairy, that it must take from the air a larger proportion of its organized material than does our own corn, grain, or grass. As the leaves of all plants contain a larger proportion of saline and earthy matter than does the stalk, or even generally the fruit, and as we return the leaves and stalk to the soil, also, have I not some ground to suppose, if I return all my cotton seed, that I will keep up the fertility of the land, as it was at first—the peculiar inorganic matter that forms the matter alone excepted—and even then, there being so little taken away that the top is somewhat recompensed by occasional additions from accidental sources. If we judge of the leaf of the cotton plant by the willow, we would not lose very much by even removing the cotton stalk. The willow contains 4 1-2 lbs. of saline and earthy matter, whereas the leaves contain 82 lbs. to the 1,000—so says Johnston. But the advantage is not only returning of the salts—supply of organic food—but the stalks tend to loosen the land, of course to render it lighter and less adhesive.

As to the turning under of corn-stalks, cotton-stalks, and pea vine, there is no planter in the South will object to it; but there are many who think plowing in green oats or rye would be injurious. I have done this to a greater or less extent for several years, and I well remember of a ten acre patch of oats that I plowed in, in the month of May, I think, and planted it forthwith to corn. The land showed a marked advantage for several years, and but for this would have been, ere now, worthless. I ask if our Mississippi farmers (planters I should say) do not plow in every spring a good coat of green grass? I ask of those who have the chick-weed—called in these parts "Jackson purslain"—if they do not plow it in? I go still farther, and contend if the turnip be sown on fields at the rate of 1-2 to 1 pint of seed per acre, and fed on the land to sheep and cattle, that the land will not deteriorate. I am aware that a large majority of planters believe the turnip to be an exhauster, yet I cannot believe that it will prove so if used as we use them in this country. The turnip receives very largely of its growth from the air, being mostly composed of water, and not much over, though one-third is removed from the soil—scarcely what the root has gained from the air. We never feed our turnip lots so close as to remove the half, and then bring feed on the land; a portion is returned in the way of urine and dung. The residue is turned under before the seed-stalks have bloomed, and does good certainly, by keeping the land porous, if nothing else.

The cost of labor, with all these adjuvants, is very trivial; the sowing down in time is all that is required. I have grown as good rye without the land being plowed before as after, for that crop, as when the land was flushed and harrowed, rye not producing over 12 to 15 bushels per acre at this place.

In 1843 I sowed some 75 or more acres—this year I sow over 30. I am anxious that this thing should be prosecuted in the South, believing that a little help now will save our children's children, their ancestral all a rich legacy. And why not work thus for our children, as well as to add workers? If I can have my land entirely competent to raise $40 per acre, will not my child be as well off as my neighbor, who leaves his child with double the number of hands, and land not capable of producing over $20? The equality may not be in one year apparent, but would be ere the close of the next generation. But when it is considered that a plantation is under good hedges that will last for a century, under a good system of drainage, and then in good heart, will not the advantage be immense? There are too few who will look at the matter in its true light. They are fearful of the labor, of the present cost, without looking to the result. Every one who would reflect would know, that land retaining water would remain cold much longer than if it did not; let them place their hand in water and hold it up—the evaporation causes coldness. Again, a vacuum will not exist; if the land be full of water, air cannot penetrate it; but drain off the water, air will follow; if made light the air will fill every interstice, and thus will roots be furnished with more material for food. Yet even this is not all; when the food is too much diluted with water, it is like feeding the horse with fodder—there is nutriment, but too dilute—it requires too much aliment.

With all these important aids there is one thing that is all important—*deep plowing*. By the natural course of events the richness of the top soil is washed out, it sinks into the sub-soil; lime sinks, marl sinks, clay sinks, thus leaving the top soil poor in lime, &c., and disposed to become poor and sticky. By deep plowing these are brought up, mixed, and the soil deepened; in proportion to the mixing and fine tilth will the air have access, and will the soil be rendered lighter and more open, and of course permitting roots to ramify and extend in search of food; thus causing a retention and circulation of moisture, more rapidly cooling in the night, and a greater deposit of dew, as well as earlier warmth in the spring.

I need not extend these remarks; your readers can find them elsewhere, and if they will examine, they will be as equally convinced as I am of their utility.

Nature herself pursues a rotation of crops. I have seen a waste field producing nothing save broom-sedge; in a few years it would be able to bear a crop of short-leaved pine trees. These grow, drop their leaves, and after years of labor, fit the land to produce a crop of oaks. These grow with more or less vigor, and we are told that after thriving for centuries, they sicken and die—"its entire race dies out, and other races succeed it." Let the hand of man, in imitating nature, have a care lest it runs one crop to the death, and unfits the land to produce aught save the ridge-grass; as barren fields amply testify all through the south. M. W. PHILIPS.

*Edwards' Depôt, Miss.*

## MANURES AND CULTIVATION.

CONCLUSION of Mr. R. L. Pell's remarks at the January meeting of the American Agricultural Association, on manures and cultivation.

On cultivation, Mr. P. said:—On the 9th of October, 1844, I cleared the tops from a dug potato field—burnt them, and returned the ashes—with a view of sowing wheat. The seed was then prepared thus: soaked four hours in brine that would float an egg; then scalded with boiling hot water mixed with pearlash; passed through a sieve; distributed thinly over the barn floor, and a dry composition sifted on it composed of the following substances: oyster-shell lime, charcoal dust, oleaginous charcoal dust, ashes, Jersey marl, or blue sand, brown sugar, salt, Peruvian guano, silicate of potash, nitrate of soda, and sulphate of ammonia. The sun was permitted to shine upon it for half an hour, when the particles crystallized upon the grain. In this state it was sown at the rate of two-and-a-half bushels to the acre, directly on the unplowed potato ground, and immediately plowed in to the depth of five inches, with a Scotch plow; harrowed once; a bushel of timothy seed sown to the acre, and harrowed twice. At the expiration of fifteen days the wheat was so far above ground as to be in advance of some which had been sown on the 1st of September—thirty-nine days earlier, in the usual manner, without any preparation. Near it I sowed wheat prepared, on turnip and carrot ground, the tops not having been removed, and plowed the whole in together with like success. Still adjoining I sowed three bushels to the acre in a dry state, on potato ground; plowed and harrowed first; wheat then sown and twice harrowed; the first parcel, although plowed in to the depth of five inches, was 2½ inches high before the last appeared above ground, although the whole field received the benefit of the following composition sown by hand, at an expense of two dollars per acre, viz.: stable manure, dry charcoal dust, hickory wood soot, bone dust, oleaginous charcoal dust, oyster-shell lime, decayed leaves, leached ashes, unleached ashes, guano, sal soda, nitrate of potash, fine salt, poudrette, horn shavings, refuse sugar, ammoniacal liquor, blood, sulphuric acid, magnesia, plaster from walls ground, decayed grass, decayed straw, decayed weeds, fish, refuse oil, sea-weed, oxide of iron, and oxide of manganese. My object was to contribute to that growing crop every substance required for its growth. It is possible that ten or twelve of the above named substances might have produced the same effects. The wheat raised by the experiment just detailed produced flour containing 18 per cent. of gluten.

In 1843 I sowed thirty acres with prepared wheat, and top-dressed it with charcoal dust. It grew rapidly, was not attacked by rust, mildew, or blight, when fields near it were almost destroyed. A small portion of the lot, which had received by accident a large supply of charcoal dust, produced at the rate of 78½ bushels to the acre. I cut it when the straw presented a yellow appearance four inches above the ground. At that stage of its growth a milky substance could be expressed readily from the kernels. It was allowed to remain three days in the field, when it was carried to the barn, and threshed immediately. It weighed nearly 64 lbs. to the bushel, and sold by weight for 12½ cents above the market price.

A few acres were left standing, and cut three weeks after, when the farmers in the neighborhood harvested *their* wheat. The grain was small, shrivelled, and weighed 56 lbs. only per bushel; the straw had lost its most nutritious substances; was much lighter than that cut earlier, and consequently less valuable. I believe that after the stem turned yellow near the ground, there being no connection between the root and tassel, the kernel wastes daily. By cutting early there is preserved in the straw all its nutritive matter, and thus it is rendered almost as valuable for fodder as hay.

In conclusion, Mr. P. said that his processes looked not only to results through science, but to economy in expenditure.

## FENCES.

WHEN you commenced your articles on fences, early in the last volume, I hardly had sympathy enough with you to read them attentively. I was not vexed (as it seems some of your readers were), I rather ridiculed your notions, and passed them unheeded. But now, having spent more than $150 the past summer, in enclosing my farm with a new and stout fence, I confess I have considerably changed my mind.

I purchased a farm where the fences were miserably poor. It was said a crop had never been harvested there without more or less injury from unruly cattle. Indeed, the domestic animals all about seemed to regard it as "free plunder." The first thing I did was to hire two men, and commence enclosing the whole farm (wood lot and all) with a stout fence. It took us several months of hard labor, to the neglect of other needed improvements. It took also a good share of the valuable timber from the whole lot. The fence is finished —the cattle keep their own side. This is some satisfaction. But when I remember how much it cost, in time, money, and timber, and remember, too, that it is all to keep others' cattle out, not my own in—that it is a direct and heavy tax to protect me from what ought never to be allowed—cattle on the common, I repeat, I begin to have considerable sympathy with your anti-fence making articles. I wish you great success in convincing the farmers of the injustice of this whole matter. By the time this fence decays, I hope there will be such a revolution as to make it needless (as it will be impossible for want of materials) to rebuild. If the Agriculturist shall effect such a change, it will save millions to this people. T.

*Ohio, January,* 1846.

## GARDENING.—No. 3.

During the reign of Henry V. of England, in the beginning of the 15th century, King James of Scotland was a prisoner in Windsor castle for several years. In the poem written at that time by that monarch, he gives the following account of a royal garden there :—

Now was there maide fast by the touris wall
A garden faire, and in the corneris set
Ane herbere greene, with wandis long and small
Prailit about, and so with treeis set
Was all the place, and hawthorn hedges knet,
That lyfe was non, walkyng there for bye
That myght within scarce any wight espye.

Hampton Court was laid out about the middle of Henry the Eighth's reign (1530), by Cardinal Wolsey. The labyrinth, one of the best which remains in England, occupies only a quarter of an acre, and contains about half a mile of winding walks. It is of great intricacy.

Chatsworth, the splendid seat of the Duke of Devonshire, was laid out in 1670, from a design by the artist Le Nôtre.

Hopetown House is situated on the banks of the Frith of Forth, a few miles west of Edinburgh. Both on account of the elegance of the mansion itself, and of the magnificence of the scenery with which it is surrounded, it is considered one of the most princely residences in Scotland. The park contains 1,700 acres, of an irregular surface, and abounding in trees. The pleasure grounds were laid out in the years 1725 to '30, and appear to have been designed in the Dutch style. There is a certain stateliness about the grounds which harmonizes well with the aspect of the mansion itself.

The greatest curiosity in gardening in Ireland, is the Hanging Garden of Limerick. This contains an acre of ground, which is covered with lines of arches rising in terraces one above another; the lowest, 25 feet, and the highest, 40 feet. Over these arches is placed a layer of earth, five feet thick, and planted with choice fruit trees and flowers. The space under the arches is employed as a cellar, and will hold nearly 2,000 hhds. This work was commenced in 1823, and was completed in 5 or 6 years, at an expense of $75,000.

The first public botanic garden in England was founded at Oxford in 1632, by Henry, Earl of Danby, who gave, for this purpose, five acres of land, built green-houses and stoves, and handsomely endowed the establishment. The botanic garden at Kew was established in 1760 by the Princess Dowager of Wales, the mother of George III. The botanic garden of Edinburgh occupies 16 acres, and includes extensive hot-houses and other desiderata, in a superior style.

The garden of the Emir Facardine, at Beyroot, is described by Maundrell as " a large quadrangular spot of ground, divided into sixteen lesser squares, and planted with citron trees."

The gardens of Damascus are described by Egmont and Heyman as perfect paradises, being watered with copious streams from Lebanon, and shaded with palms and elms, whose shade was exquisite in that burning climate.

The gardens of Persia are said to vie in beauty and luxuriance with any in the world; and to them the Persians devote their principal attention. When Mirza Abul Hassan was ambassador to the court of St. James', one of his greatest satisfactions arose from occasionally walking, unattended, in Kensington Gardens. The gardens of Kerim Khan are thus described in Morier's *Journey to Persia.* " An immense wall, of the neatest construction, encloses a square tract of land, which is laid out in walks, shaded by cypress and chenar, and watered by a variety of marble canals, and small artificial cascades. In the centre of the garden is one of the principal summer houses. There is a basin in the middle of the chief room, where a fountain plays continually, refreshing the air. The garden is now (1812) falling into decay; but those who saw it in the reign of Kerim Khan delight to describe its splendor, and do not cease to give the most ravishing pictures of the beauty of all the environs of his capital."

One of the earliest accounts of Chinese gardens is thus given by Père le Compte, who resided for some years in that country as a missionary. " The Chinese appear still more to neglect their gardens than their houses. They would consider it as a want of sense to occupy their grounds only in parterres, in cultivating flowers, and in forming alleys and thickets. The Chinese, who value order so little in their gardens, still consider them as sources of pleasure, and bestow some expense in their formation. They form grottoes, raise little hills, procure pieces of rocks, which they join together with the intention of imitating nature. If they can, besides these things, find enough of water to water their cabbages and legumes, they consider, that as to that material, they have nothing more to desire, and content themselves with a well or a pond." Such was Chinese gardening anciently, but mark their improvement. In Dobell's Travels (vol. 2, p. 314), we find that " the houses are surrounded by extensive and beautiful gardens, adorned with artificial lakes, rocks, cascades, buildings of various descriptions, walks, bridges, &c. In the ornamenting and beautifying of gardens the Chinese excel all othe nations. By means of a variety of winding walks they make a small place appear twice as large as it really is. Innumerable flower-pots, containing a great variety of beautiful asters, of which they are very fond, are sometimes arranged in a labyrinth. When the asters are in full bloom, the pots arranged handsomely, near a piece of water, and the walks and alleys well lighted, at night, with variously colored lamps, a Chinese garden has the appearance of one of those enchanted places we read of in the Arabian tales."

The country houses and gardens of the Pacha, and most of the rich inhabitants of Grand Cairo, are situated at Boulak. They are said to be well stocked with date and other palm trees, and with the grape and some other vegetables.

Of the state of horticultural science in the North of Africa, some idea may be formed from the following extract, given by Beechey, from a Moorish horticultural work. "When a palm tree refuses to bear," says the Moorish author, "the owner, armed with a hatchet, comes to visit it in company with another person. He begins, by observing aloud to his friend, in order that the date tree may hear him,—'I am going to cut down this worthless tree, since it no longer bears me any fruit.' 'Have a care what you do,' replies his companion, 'for I predict that, this very year, your tree will be covered with dates.' 'No, no,' cries the owner, 'I am determined to cut it down; for I am certain it will produce me nothing;' and then, approaching the tree, he proceeds to give it two or three strokes with the hatchet. The friend again interferes, and begs him to try one more season; adding, that if it does not bear then, he will let him do as he pleases. The owner at length suffers himself to be persuaded, and retires without proceeding to further extremities. The threat, however, and the few strokes inflicted with the hatchet, have always the desired effect; and the terrified palm tree never fails to produce, the same year, an abundant crop of dates."

The Isle of Bourbon contains a botanic garden, which has been richly endowed by the French kings; and contains, besides the productions of the island, a splendid collection of African and Asiatic plants. It is situated on a rising ground, in the middle of the town, and occupies fourteen acres.

The gardening of North America is necessarily that of Europe, so far as soil and climate will permit, and, as is the case of other arts in any new country, the useful departments are more generally attended to than the ornamental.

"Horticulture in the United States, it will readily be perceived, has had to contend with many obstacles. Separated from the old world by a wide ocean, it was for a long time with difficulty that any of the rarer and finer vegetable productions of the eastern continent, could be brought out by emigrants. Whatever has been done has been effected by private means, and to gratify private taste. This, however, at the present time, is so much as to afford cause of the highest gratification, and gives reason to hope for the fulfilment of every reasonable anticipation for the future." (*Downing.*)

Belmont Place, at Watertown, in the vicinity of Boston, is a beautiful residence, and was formerly known as the 'Preble Place.' It is in an excellent situation, containing about one hundred acres of land, consisting of a lawn, gardens, and pleasure grounds. It is one of the finest in the country, and will probably, before long, vie with the famous English gardens of Sion House and White Knights.

Hawthorne Grove is a fine place, consisting of about fifteen acres, containing green and hot-houses, and other forcing pits. Monataquot, in the vicinity of Braintree, is noted for its collection of fine fruits. Brighton Nurseries are situated about four miles from Boston. The collection of herbaceous plants, ornamental shrubs, forest, and fruit trees, is one of the best in New England.

The garden of Mr. Tudor, in the vicinity of Hartford, is neatly laid out in flower beds, and a green, and has one of the best collections of hardy, herbaceous and choice green-house plants, anywhere to be seen.

In and around Providence, R. I., there are many fine gardens and country residences. The principal nursery is Dier's, about four miles from the city, and contains many select varieties of fruit and other trees.

The only botanical garden of any extent in New England, is situated at Cambridge, and is connected with the University at that place. It was commenced in 1802, by subscription, but it afterwards received aid from the State; and, in commenting on this fact, the New York Farmer makes use of the following language—"Of a very enlightened legislature, who, not mistaking false maxims of economy for true ones, saw, in the destruction of a great public work, great loss; deeming that the riches and prosperity of a state are as much promoted, to say nothing of its reputation, by wise and generous establishments for the promotion of knowledge, as by any financial measures."

In the neighborbood of the city of New York are many fine gardens and residences. The nursery and green-houses of Mr. Hogg are worthy the imitation of every gardener in the United States, on account of their neat and orderly appearance. The seat of N. Prime, Esq., is noted for containing one of the finest ranges of forcing houses in the vicinity of the city. Messrs. Shaw & Thorburn, have a nursery and green-houses at Astoria, containing about twenty acres, rich in trees and plants. The well known and extensive nurseries and green-houses at Flushing, L. I., are among the oldest and most extensive in this country. West Farms is situated about 4 miles from Harlem. The grounds, which are laid out in a fine, open manner, may be considered of the first order. Long avenues of flower-borders and walks, with a good proportion of lawn, together with summer-houses, seats, and the like, very appropriately arranged, render it a delightful summer residence. The establishment of Judge Buel, at Albany, and the nursery of A. J. Downing at Newburgh, are fine places, and worthy the attention of all lovers of horticulture.

The most distinguished garden in the neighborhood of Philadelphia is that now owned by Mr. Carr. It was established in the early part of the last century, and is the second in age in the United States. Here was collected together, by the celebrated naturalist, John Bartram the elder, nearly all the indigenous plants and trees of North America, the superb specimens of which, at this day, stand unrivalled in any part of the country. Messrs. Landreth's nurseries are situated about two miles from the city, and contain about forty acres of land; part of which is devoted to the raising of garden seeds.

Extensive gardens and nurseries may now be found at Baltimore.

Mount Vernon, on the Potomac, was the seat of Gen. Washington, "first in peace, first in war, and first in the hearts of his countrymen." The extent of this place is about ten thousand acres, much of which is yet covered with forest.

Monticello was the residence of President Jefferson. It is situated on the summit of an eminence, commanding extensive prospects on all sides.

"At Charleston, the houses of the suburbs are, for the most part, surrounded by gardens, in which orange trees with most splendid ripe fruit, monthly roses in full bloom, and a variety of other very flourishing plants, display themselves."

"At Cincinnati, there is a public garden, where the people go to eat ices and look at roses. For the preservation of the flowers, there is placed at the end of one of the walks, a sign-post, representing a Swiss peasant girl holding in her hand a scroll, requesting that the flowers might not be gathered."

At New Orleans are beautiful gardens, both public and private, filled with tropical and other choice flowers and plants.

A conventual garden at Mexico is described by Humboldt, as one of the finest he had ever seen. In the garden, were immense groves of orange trees, peaches, apples, cherries, and other fruit trees of Europe. The botanic garden of Rio is situated about 8 miles from the town. The tea shrub of China, first introduced into this garden, has begun to be cultivated in the interior of the country.

"The botanic garden of Jamaica, West Indies, was originally begun by Hinton East, Esq., and afterwards bought by government and enlarged, so as to contain about 70 acres. One of the objects of its establishment was to preserve, without artificial means, the productions of various climates. Such a project could only be executed in a tropical latitude, where the various elevations of the ground would regulate the required temperature."

L. T. Talbot.

## PLANTING A VARIETY OF CROPS.

Sometimes, farmers devote most of their tillable soil for, and expend most of their time upon, one or two main crops. Thus, some men depend mainly upon the wheat crop—others upon grass, and the southern planter upon cotton. Now, it often happens that an unfavorable season destroys particular crops, and thus often a whole year is lost, where one crop (or two) receives the farmer's sole attention Last year, for example, in this section, wheat was very nearly destroyed, hay entirely, and fruit and some other crops were very light. On the other hand corn was never better. Buckwheat, millet, flax, and vines, generally produced well. Potatoes yielded well, but were injured by the disease after gathering.

Now the object of this note is to recommend to farmers to plant a greater variety of seeds, so that when one fails, others will supply their places. Those who had only grass land last year had to nearly give away their cattle, or drive them at a great expense to another part of the state to be wintered; while those who sowed corn and millet for fodder, have wintered their stock as easily as usual. This is only an illustration. The principle extends to the whole circle of tillable crops. If one or two alone are cultivated, there may be an entire failure, causing much suffering and much loss. If a variety, some will always succeed, and these may be substituted for the rest.

Besides, the times for planting and harvesting the different kinds occur, the one after the other, so as to divide the labor through the season. Thus, spring wheat and oats should be sown early; corn planted after the danger of frosts is over; corn for fodder and millet later still. And these (and others) all have their different seasons for harvest, each in its time. Whereas, when one crop is the main one, there is one season of great hurry in seeding, and another in harvest; teams and men have to be driven to excess then, and be comparatively idle the rest of the time. This surely is not wise. I recommend, then, that farmers add greatly to the variety of the crops they annually cultivate, and "give each its portion in due season."

*Ohio, March*, 1846. T.

## ANALYSIS OF CLOVER AND ITS MANAGEMENT.

The following article was addressed by Mr. Horsford, of Albany, now with Prof. Liebig, at Giessen, in Germany, to Mr. T. W. Olcott, of Albany, and read at one of the agricultural meetings at the capitol in that city during last month.

*Giessen, January*, 1846.

In the progress of the last term, while other chemical labor was going forward, I made an ash-analysis of red clover, and accompanied it with an investigation, which I record below.

To the latter I attach in its isolation no special value; inasmuch as the circumstances in which it was conducted deprive it of perfect scientific exactness. I make it the basis, as you will observe, of explaining one or two chemical processes.

It is well known that the juice of clover-heads contains more or less sugar. The nectaries of the fully developed head are especially rich in a honey-like liquid, which bees gather. In cutting the clover when the heads are fully formed, but not ripe, the sugar of this honey will be secured. The water will evaporate, leaving the sweetness with the vegetable fibre and other organic matters, to be fed to stock. If the clover be cut before the heads begin to develope, the sugar, if formed, must be in the stems and leaves; if not cut until the seeds are ripened, the sugar may have accomplished one of its supposed ends—that of keeping up a higher temperature within the seed for the elaboration of its various parts, and thereby have been destroyed.

It was my purpose to ascertain how much sugar, or rather the relative amounts of sugar, there might be at the above named three stages of the development of clover. Experiments with the first two kinds were made. The clover crop being nowhere permitted to ripen, I was unable to submit the inquiry concerning the third to the test of experiment. I cut clover exactly at the surface of the ground, on the 16th day of June, just as the tufts of leaflets enclosing the heads were discernible. These I chopped to fineness, and placed a weighed portion in a flask, connected through the medium of a chloride of calcium tube, with a Liebig's potash apparatus; having previously thoroughly mixed with the clover a small quantity of fresh, carefully-washed beer yeast, and covered the whole with water. Fermentation went briskly forward for several days.

On the 1st of July, when the heads were fully developed, I cut another portion, and having finely chopped, weighed and mixed with it yeast and water, connected all with another potash apparatus, as in the other case.

Without or beyond both the potash tubes, were tubes of hydrate of lime, to prevent the absorption of carbonic acid from the air.

On the 30th of July, the fermentation being quite done, the potash apparatus of the last mentioned [quantity of clover] had increased in weight by 1.15 per cent. of the whole weight of clover subjected to fermentation. The first mentioned had increased only by 0.80 per cent. Thus the amount of carbonic acid, evolved from the mass last cut, was almost half as much again as that from the quantity first cut.

It may be well, since I have introduced so many expressions betraying the laboratory, that I endeavor to explain the mode by which I hoped to ascertain the amounts of sugar in the two kinds of hay.

Most persons are familiar with the fact that distillers ferment large quantities of grain to obtain alcohol. The process to which the grain is subjected, effects a decomposition of the sugar of the grain, into carbonic acid and alcohol.

The sugar susceptible of this decomposition is grape-sugar—that to which the sweetness of apples is due, and which is manufactured in enormous quantities on the continent of Europe from the starch of potatoes. Its composition, when dried at 212° from analysis, is Carbon, 12 atoms; Hydrogen, 12 atoms; Oxygen, 12 atoms; or, in the language of chemistry, $C_{12}\ H_{12}\ O_{12}$. If we take from this 4 atoms of carbon, and 8 atoms of oxygen, there will remain $C_8\ H_{12}\ O_4$ thus:

$$\begin{array}{ccc} C_{12} & H._{12} & O_{12} \\ C_4 & & O_8 \\ \hline C_8 & H_{12} & O_4 \end{array} \left.\vphantom{\begin{array}{c}a\\b\end{array}}\right\} \text{Equal to 2 atoms of alcohol,}$$

the composition of alcohol being $C_4H_6O_2$.

The alcohol becomes the high wines; the carbonic acid floats over the fermenting-tubs and escapes.

Thenard has shown, by distilling and collecting the alcohol, and weighing the carbonic acid arising from the decomposition of a given weight of sugar, that the weight of the sugar and the sum of the weights of the alcohol and carbonic acid equal each other.

The alcohol may be permitted to go directly into acetic acid, as takes place with fruit, when exposed to air, or continued as alcohol by excluding the air.

Vinegar has the following composition: $C_4\ H_3O_3$. In order to its formation from alcohol, three atoms of hydrogen must be taken away, and one atom of oxygen added. This takes place quietly and slowly in cider and beer casks, as well as vinegar barrels, with which all are familiar. The housewife, to keep the vinegar on the increase, adds wine, or whiskey, or cider, or maple sap, or molasses. All these contain sugar or alcohol. The sugar is resolved into alcohol and carbonic acid. The alcohol, however, does not continue as such, if the liquid be exposed to the action of the air, but goes into vinegar or acetic acid.

Decompositions have been so much and closely studied, that the results are perfectly understood. The *causes* of the decomposition are still matters of discussion.

The carbonic acid, to whose addition the increase in weight of the potash apparatus is to be attributed, indicates a certain amount of sugar from which it was derived. The larger per cent. of carbonic acid in one case corresponds to a larger per cent. of sugar in the clover.

I add the analysis of the ashes of the clover. From it may be seen one of the parts sulphate of lime (plaster of Paris) plays in the developement of clover.

Franklin, anxious to convince our countrymen of the efficiency of plaster (sulphate of lime) manure, strewed a few handfuls of it in the form of large letters upon a clover field. In a few weeks the plants that had received it had so far out-grown, and had taken on a color so much deeper and richer than the others around, that the wonder of passers-by was naturally excited.

Of the whole plant, in its green state, the earthy ingredients or inorganic constituents

| | | |
|---|---|---|
| Equal - - - | 1.83 | per cent |
| Of the leaves, - - | 1.75 | " " |
| Of the stems, - - | 1.40 | " " |

The water in the green clover, determined by two experiments, was 83.55, and 83.58 per cent.

Of the dry plant altogether, the ashes

| | | |
|---|---|---|
| Were - - - | 11.18 | per cent. |
| Of the leaves, - | 10.69 | " " |
| Of the stems, - | 8.52 | " " |

*Ingredients of the Ashes.*

| | | | |
|---|---|---|---|
| KO | (potash) | 12.164 | 16.101 |
| Na | (sodium) | 1.414 | 1.874 |
| NaO | (soda) | 30.757 | 40.712 |
| CaO | (lime) | 16.556 | 21.914 |
| MgO | (magnesia) | 6.262 | 8.289 |
| PO8, 2Fe2O3, | (phosphate of iron) | 0.506 | 0.670 |
| Cl | (chlorine) | 2.159 | 2.856 |
| PO5 | (phosphoric acid) | 2.957 | 3.915 |
| SO3 | (sulphuric acid) | 0.801 | 1.063 |
| Si | (silica) | 1.968 | 2.605 |
| CO2 | (carbonic acid) | 22.930 | |
| Sand and coal, | | 1.244 | 100.000 |
| | | 99.718 | |
| Loss or waste, | | 0.282 | |
| | | 100.000 | |

The sand was probably spattered upon the stalks by rain, and some coal remained after the most careful and long-continued burning.

The first column of figures contains the direct results of the analysis in per cent. The second column the results deducting the carbonic acid, and coal, and sand.

By the analysis we see how large a part is made up of potash, soda, and lime. Sulphuric acid is there; without its presence in the soil it could never have been among the tissues of the clover.

If it be an essential *irreplaceable* ingredient, as phosphoric acid is in the seeds of wheat and corn, it is readily seen how Franklin's selection of clover may have been peculiarly happy. I do not pretend to say that it is indispensable. A series of experiments only could settle such a question.

The large proportion of carbonic acid is particularly worthy of attention. Comparing it with the sum of all the other acids—the phosphoric, sulphuric, silic, and hydrochloric (of which the chlorine is given)—we see how far it exceeds them. Again, looking at the per cent. of bases, we see how very large the proportion when compared with the sum of the inorganic acids. This surplus of base was most of it united to organic acids. These, in the burning of the plant, have been destroyed. Their place has been wholly, or for the most part, taken by carbonic acid. Here is nearly 23 per cent. of carbonic acid. In an analysis of the ashes of sugar cane made at Giessen last summer, there was not a trace of carbonic acid. Such is the difference. In the sugar cane the per centage of silica was large. Timothy grass ashes gave also no carbonic acid, but a large per cent. of silica.

The moisture of green clover amounts to 88.55 per cent., and the clover contained sugar, a body capable of fermentation. What hints do these facts furnish to the farmer! If the clover be taken to the mow with this quantity of water, the water will furnish the means of that intestine motion among the constituents of the plant held in solution in the fibres of the stems and leaves, which is necessary to fermentation; and not only will the sugar be lost, but vinegar will be formed, souring the whole mass, and rendering it unpalatable to stock. If it be properly dried, the sugar as such will remain in the vegetable fibre, and go to nourish the stock, furnishing to horses, cattle, and sheep, an element whose combustion serves to keep them warm and furnish fat. (*a*)

But again—

The leaves contain 10.69 per cent. of ashes.
The stems contain 8.52 " " " "

Now as the inorganic matters are more or less serviceable in the animal economy, the leaves, containing most of them, should be carefully preserved; and as the ashes of the whole plant, including the head, have 11.18 per cent. of ashes, it is clear that the preservation of the heads and leaves is decidedly more important than the stems. Hence the farmer cuts the clover, and instead of drying it in the sun, cocks it for a few hours, so that the vapor evolved from within, in the process of drying, shall keep the stalks and leaves without from becoming too suddenly dried and unnecessarily brittle.

In closing, I will state one of the results to which the experiments of Prof. Liebig are daily leading. In the spring preceding my arrival at Giessen, Liebig planted some grape scions under the windows of the laboratory. He fed them with the ashes of grape vines, or the proper inorganic food of the grape, as shown by analysis of its ashes. The growth has been enormous, and several of the vines bore large clusters of grapes in the course of the season, and all may have, as I did not particularly observe them until the grapes were gathered. The soil is little better than a pavement—a kind of fine gravel, in which scarcely anything takes root.

There are pots of wheat in different stages of their growth, that have been fed variously—some upon the inorganic matters they require, according to analysis of their ashes—others have had merely the food which is furnished by the soil. The results in numbers are not yet known, but from appearance we may readily judge what may be expected.

I may mention in this connection, that I gave to Prof. Liebig five varieties of American corn, all of which were planted, but not one of which came to maturity, though the first frost in Giessen was about the 20th of October. The climate is essentially different from ours. The heat of our summer is more intense.

The experiments of Prof. Liebig, mentioned above, are full of interest, not alone as sustaining the views he has advanced, but also as showing that the treasures in the shape of inorganic manures, heaped up in some quarters of the globe, may be made to equalize the fruits of labor in other regions.

E. N. HORSFORD.

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(*a*) The discussion between Dumas and Liebig, relative to the formation of fat from sugar, has been settled in favor of the latter, by a repetition on the part of Dumas, of experiments made several years since by Liebig.

## ROCKY MOUNTAIN SHEEP.

I AM a wool-grower in the State of Ohio, and being a great admirer of sheep, I have been very desirous of ascertaining whether there are not modifications of the *American Argali*, or the Rocky Mountain sheep, to be found among the native tribes of Indians, inhabiting the country bordering on that range. Capt. De Bonneville, and other travellers, speak of the Argali as being found in great abundance from the 50th degree of north latitude, down to California; and though their meat is said to be very tender and good, as they mostly frequent the lofty summits, inaccessible to man, they in a great measure escape the vigilance of the hunters, and must be very numerous. In this effort I have been unable to discover any sheep among the tribes, which were not originally taken from east of the Mississippi river, except in one case, and that a very interesting one. This tribe is called the Navahoe, and live about 300 miles north by west from Santa Fé. They inhabit what is called a gorge, in the Rocky Mountains, into which there is but one narrow winding passage, which they defend from intrusion with the utmost bravery; and having been really independent, they appear to have made more effort to add to their comforts than the other tribes around them. No white man has ever visited their residence, and it is said no Indians, except fur traders of the Delaware tribe, who are a very daring and enterprising race of people. These traders describe their houses—that they raise a great many sheep and cattle—have a large quantity of arable land, and cultivate it—have some knowledge of the arts, which they discover by the blankets which they make and sell in the market of Santa Fé.

These blankets are made from a very superior kind of wool, which they raise. It is said by those who have seen them, to be very fine, soft, and silky to the touch, and sell in that market from $25 to $100. I have not been able to get any idea of the form of the sheep, their domestic habits, or the quantity of wool which they produce. But as these Delaware traders say they have a great many of them, and as they probably are dependent on their fleeces for their clothing, it may be pretty certain that they are well domesticated.

I have seen one man who has conversed with one of those traders upon the subject.

Is not this race of sheep worth an effort of the wool-growers of the United States to possess? I have been long thinking that we have been very remiss in our efforts to introduce the Alpaca; but I am much gratified in reading to-day in a newspaper, that the American Agricultural Association are now determined on importing 300 of that valuable animal. Success to the enterprise. It will be a great individual and national benefit.

*Cincinnati, Feb.* 20, 1846. Nath. Sawyer.

We sent the above letter for an answer, to Dr. Lyman, who has travelled extensively in New Mexico, among the Rocky Mountains, and in California. The following is his reply:

*Northampton, Mass., March* 6, 1846.

I will endeavor to answer, in as brief a manner as possible, the interrogatories of your correspondent. There are no modifications of the *Argali*, or "Rocky Mountain sheep," among any of the Indian tribes of the mountains, nor are there any kind of sheep among them, with the single exception of the Nabajo Indians, living due west of Santa Fé, and about 100 miles from that place.

The Nabajos raise very large flocks of sheep, but they are of the genuine Spanish breed introduced by the early conquerors. It is not fifty years since these Indians were entirely destitute of every description of stock, excepting a few wild horses which they caught out of the wild droves of the country as they needed them. In the time of the Viceroys, they were nomadic in character, like the other Indians of the mountains at present; but since this the character of the New Mexicans has so much deteriorated in every respect, that the Nabajos, naturally enterprising, have discovered their own superiority, and consequently have made free with the property of the Mexicans. The stock they now have is derived from what they obtained in their frequent marauding expeditions into the valley of the Rio del Norte. In fact they have so thoroughly drained the Mexicans, that they have left them almost entirely destitute of every kind of stock, except vermin and mongrel dogs—a few noble shepherd dogs still remain; while the Nabajos have become enterprising and energetic farmers, and capital stock-breeders—rich in sheep, mules, horses, and horned cattle. Some of the horses they breed are not surpassed by any on the continent. Their farming implements consist of a plow made of two sticks, tied together where they cross. These are drawn by oxen. A hoe of wood—a fork of wood also. The ground they cultivate is a light alluvial soil, easily broken, and annually flooded by the swollen streams of spring. They raise maize, beans, peas, onions, and pumpkins. They have an abundance of poultry also. They dress in buckskin breeches and shirts, which are beautifully ornamented and fringed. The blankets they make are worn constantly thrown over the shoulders. For a more particular description see account I have given of them in Farnham's California, part 4th, pages 372–3–4.

The sample of wool you sent me looks very much like the New Mexican lamb's wool [from Mr. Watson, see current volume, page 110.—Ed.] —or like the under fleece of the sheep, which lies close to the skin, and is covered by the long part of the fleece. The fleece of the New Mexican sheep is long, coarse, and heavy, like mohair. The Nabajo sheep of course is the same, being the same kind of animal. What this fleece was when first imported by the conquerors of Mexico, I do not know, but probably much finer than now.

You call the above sample "Rocky Mountain wool;" it is so, inasmuch as the "Rocky Mountains" run into New Mexico, where the sheep which produce it are found; but you leave me to infer that it is the product of the "Rocky Mountain sheep," or *American Argali*, which is *entirely destitute of wool*. Its covering is of precisely the *same* character with that of the elk, deer, and antelope of this country. It has coarse hair, like bristles; any one who has seen a deer will understand me. The only *close* resemblance of the animal to a sheep is in the flavor of its meat, which is precisely like that of Southdown mutton—juicy, tender, and luscious. In shape, it has some resemblance to a Merino ram, but is much larger, say about three feet high, and four feet long. Their horns are remarkable for size and weight, averaging some 40 to 50 lbs.; five inches in diameter where they leave the head, and about three feet long, gradually tapering to the end, they curl like a ram's horns, but make three or more entire revolutions. The only difference between its skin and that of a deer is, that it is rather finer and softer; but it is used by the trappers and Indians for the same purpose of dress. J. H. Lyman.

Mr. Sawyer will find an engraving and description of a male and female *Argall*, or *Argali*, at page 128, Vol. 2, of Godman's American Natural History, third edition, published by Messrs. Uriah Hunt & Son, Philadelphia. These figures closely resemble deer, except they are greatly coarser in the head and other points, and their horns are like those of Merino sheep, saving that they are very much larger. One might almost think that the *Argali* was a cross between a huge, coarse Merino ram, and a female elk. Stuffed specimens of the Argali can be seen in our Museums.

## CULTURE OF LATE POTATOES

There being a desire among farmers to obtain information on the different modes of cultivating the potato, with a view to escape the rot, I have concluded to throw my mite into the collection of experiments. A great yield was no part of the object. Having been unable to obtain potatoes of a good quality, I determined last spring to make an effort, not only to grow them free from the rot, but to get an excellent quality.

Early in April I chose a small piece of ground, one-third of an acre only, rather a strong loam, with an easterly slope, from a field that had carried a corn crop two years in succession, and was moreover pretty well worn down by previous hard cropping, with but scanty manuring.

When the corn stumps were harrowed down, three bushels of bone-dust were sown over it, then plowed and harrowed again. Early in June, two waggon loads of dirt from the wood-pile ground were spread on it, and the piece was divided into three equal parts, each, of course, one-third of an acre. On the first division was spread unleached wood ashes, at the rate of 50 bushels to the acre. On the second, lime rubbish (old house wall) at the rate of 250 bushels to the acre; on the third, coal ashes at the rate of 60 bushels to the acre. A short time after, it was plowed and harrowed smooth, and planted with mercer potatoes (from down east), cut rather small, on the 18th of June, in rows three and a half feet asunder, and eighteen inches apart in the rows.

The weather continuing very dry, after the middle of July, the first and only hoeing, a thorough one was given without plowing between the rows. The vines did not grow large, but during the dryest weather looked green and healthy.

Before digging (which was on the 17th Oct.) I took up half a peck from each division, that I might be able to test the different qualities, if any, produced by the three last applications. The result was, the coal ashes gave one per cent. more than the lime rubbish, and the wood ashes two per cent, above the coal ashes. The quantity was only at the rate of 120 bushels per acre. No difference in quality could be discovered; but they were altogether the best of the kind I have ever grown. Not a potato was affected by the rot, and not one was found hollow in the centre—a consequence unexpected, as heretofore my large mercers have very generally been unsound. ARCH'D JAYNE.

*Setauket, March* 2, 1846.

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We should be pleased to learn from our correspondent what kind of soil it was on which he planted his potatoes, as coal ashes have been applied by several of our friends to the light gravelly and sandy soils of Long Island without effect. But on clayey soils, as detailed pages 55 and 107 of our current Vol., it seems that they were productive of considerable benefit.

STEEPING SEEDS.—The agricultural papers, from time to time, recommend the steeping seeds before planting, to facilitate their germination. This is always well when the ground in which they are planted is sufficiently moist. But when the ground is so dry (as is sometimes the case) as to extract the moisture from the steeped seed, it delays germination, if, indeed, it does not kill the seed. During the drought of last year, dry seeds generally sprouted sooner than soaked ones, and in some cases the latter dried and died in the ground. Hence the above caution (*a*). T.

*Ohio, March*, 1846.

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(*a*) When it is very dry seeds should be planted deeper than ordinary; they will thus be in the region of moisture, and pretty sure to generate.

## MAKING CHEESE.

Two years ago I was unacquainted with the practical part of cheese-making, and in order to hold on to the knowledge gained by experience, I commenced entering in a book the heat of the milk, and the heat of the air at the time the runnet was put in; each cheese was numbered, and any other remarks made which might be called forth by circumstances during the process, or until cheese was safely deposited on the shelf. On referring to my book for the past season, I find that all the cheeses from No. 76 to 106 (at which number we quit making), were of an excellent and pretty uniform quality. The variation of the atmosphere was from 60 to 90 degrees—the heat of the milk from 83 to 90, when the runnet was added, but mostly 85 or 86. I also find by referring to my book, that the cheeses from No. 1 to 75 were made from milk coagulated at a greater degree of heat, sometimes even as high as 96. The weather was mostly hot during the time these cheeses were made. They were not, however, of uniform good quality, some heaved up and became like loaves of bread in shape, others cracked, making excellent harbor for flies and other insects, and one or two landed in the hog-trough, not, however, from poverty, for richness seemed to be rather a fault of my cheese.

The only material difference between the cheeses made after No. 76, and those made before it, is, the different heat of the milk when the runnet was added. During the time our cheeses were good, our process was as follows: The milk 85 degrees—a small handful of salt to be added to every 10 or 12 gallons of milk. Let the runnet be strong enough to do its office in one hour, then cut the curd into squares with a long knife reaching to the bottom of the tub—spread a clean strainer over it, through which in ten minutes begin carefully to dip off the whey, by gently forcing down a bowl or tin pan—heat some of the whey first dipped off, when the curd has become somewhat compact, pour in some whey at such heat as will make the mass in the tub 90 degrees, after the curd has been coarsely broken by the hand to allow the warm whey to mix with it. At this stage of the process, wait five to ten minutes, then commence dipping off the whey, and get the curd pretty dry as soon as possible—take it out in handfuls and put it in a strainer and vat, and put it under a screw-press for about fifteen minutes, pressing very gently at first, but with considerable force before the expiration of the fifteen minutes, when it should be taken out and broken up till there are no pieces of curd larger than a kernel of corn. This should be done as quickly as possible, and in a warm place if the day is cool; if this is not attended to, the particles of curd may not unite well, and the cheese might be unsound.

While the curd is in the fine state, a portion of salt, to the taste of the maker or his customers, may be added and mixed well with it; or the salting may be done after the cheese is finished pressing, by keeping it twenty-four hours or longer in a tub, rubbing it frequently with salt, and turning it over, taking care to pour off the brine daily. We have practised both these methods of salting with success (our cheeses are about 12 lbs.), but I prefer the latter method, though the first mentioned does not give one-tenth of the trouble. Gentle pressure only should be applied when the cheese is first put to press, and here I think the advantage of the screw-press is apparent. With it, a pressure of from 1 to 1,000 lbs., as the state of the cheese may require, in an hour or two, or when the cheese has pretty much done dropping, turn it and put it in a dry cloth, and repeat this once or twice, or more if you choose, before the expiration of twenty-four hours, when the cheese may be taken out of the press wholly to make room for its successor. A Subscriber.

*Auburn, February*, 1846.

## IMPROVED EAGLE COTTON GIN.

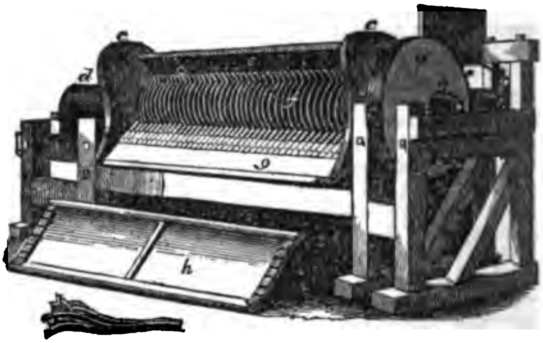


Fig. 43

*Description.*—*a*, driving brush pulley; *b*, slide; *c*, *c*, end boards; *d*, cylinder pulley; *e*, top board; *f*, saws; *g*, grate fall; *h*, seed board, with a section of the patent grate below it; *i*, idler pulley.

After carefully unpacking the different parts of the Gin, put the front pieces into the posts and fasten them securely with the joint-bolts.

The Saw Cylinder should be first placed in the frame, then the piece having the false grates upon it, and then the brush. The top timbers may then be put on and fastened. See that all parts of the frame are square. The grate fall should then be hung in its place, and the top boards and slides fitted in, so that the marks on their ends will correspond with those on the timbers. Then adjust the saw cylinder and false grates with the tempering screws at the ends, so that the saws and grates will exactly correspond, taking care not to turn the screws any farther than is sufficient to keep them steady and in their places.

See that all joints of the frame are screwed up tight—place the Gin in the position in which it is to stand, and fasten it securely to the floor or platform, so that it will stand perfectly level. See that the shafts turn freely on their axes, and that the saws run freely in the centre of the spaces between the grates.

The oil cups at the axes of the shafts should be nearly filled with oil when the Gin is started, and the wick which conveys the oil to the axes should be enlarged or diminished, until the proper quantity is supplied to prevent friction. The tube containing the wick should be withdrawn when the Gin is stopped, and dropped into the cup to prevent wasting the oil, and replaced when the Gin is again put in operation.

The saw cylinder and the piece having the false grates upon it, may be moved endwise and adjusted by the screws at their ends.

Place the mote-board 3 to 5 inches below the brush, slanting down toward the front part of the Gin, and extend another board from beneath it down to the floor; it must then be moved either forward or back, and the slant of it varied until the motes and false seeds are separated from the seed cotton and fall under the saw cylinder.

The seed-board may be raised or lowered by means of the small bolts on which it rests at the ends, and it may be varied so as to enlarge or diminish the space containing the seed cotton.

A 10 inch saw cylinder should run about 180 revolutions per minute. A 12 inch do. should run about 160 do. A 13 inch do. should run about 150 do.

Great care should be taken to fix the mote-board in a proper position to separate the motes from the clean cotton, as well as to adjust the seed-board, so that the seeds will be discharged as fast as ginned; and it is essential that the speed of the brush should be very rapid, and that all the axes should be kept oiled and prevented from heating.

Price of Hand Gins, with 14 to 18 saws each, $50 00 to $60 00. Power Gins, with 30 to 100 saws each, $3 40 to $3 70 per saw.

## BENEFIT OF GUANO.

As it may be for the public utility to hear something on the score of Peruvian guano, I will give you my experience on the subject.

Last year I used about three and a half tons of it in various ways, during the spring and summer, and must say I think it the cheapest and most effective manure I have ever tried, particularly as a top-dressing for grass lands. The way I prepare the guano for use is this: I plow a knoll of loamy soil, remove all the sods to the barn-yard, harrow the ground to make it fine, then spread a layer of guano half an inch thick, then shovel on fine dirt five inches thick, then a layer of guano as before, then five inches of dirt again in alternate layers, till I get the quantity desired. This must lie a week or ten days in compost, to incorporate the guano with the soil; it must then be shovelled over, and all the lumps broken and well mixed; you can then put it in your cart and spread it from the tail of the cart about as thick as you would ashes. I put on at the rate of 500 lbs. Peruvian guano to an acre, which started my grass right ahead, yielding two tons per acre, where I should not have had over 500 lbs. of hay without it.

My potatoes benefited greatly by the use of guano, turning out astonishingly—"the observed of all observers;" and I believe it to be a cure for the potato disease, as we had no rot where guano was applied. Applied to corn I found it equally beneficial. I planted a lot of pasture land, a poor sandy soil, and mostly grown over to moss. I spread on forty ox-cart loads of stable manure to the acre, and plowed it in; but fearing that would not overcome the inertia of the soil, I applied 500 lbs. guano per acre, in this way, after harrowing, instead of running my rows with a plow. I did it with a small harrow made for the purpose, not over 14 inches wide, but heavy. The guano was then spread in those drills, and then the harrow run again, to mix it well with the soil, and put it in fine tilth for planting. My corn yielded 70 bushels per acre, whereas, some rows that had no guano, gave at the rate of 28 bushels per acre. This, I think, conclusive. I recommend it also for fruit trees.

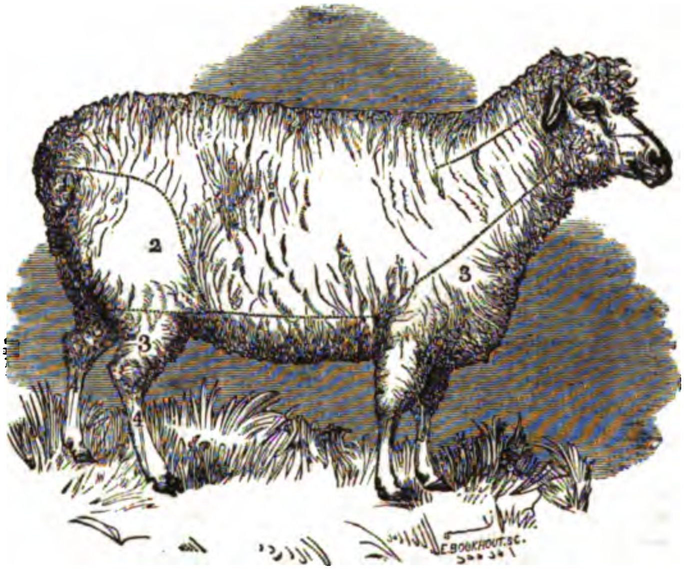
*Seekonk, Mass., Mch.* 14, 1846. J. W. Bowers.

## SORTING WOOL.

As most of the sheep of the United States are shorn during this month, we cannot do the farmer a greater service than to call his attention to the subject of the quality of his fleeces, and the manner of stapling them. For the cut illustrating this, and the matter which follows, we are indebted to Mr. Morrell's valuable work, the American Shepherd, recently published by the Messrs. Harper of this city.

*Fineness.*—This term, when applied to wool, is wholly comparative; various breeds of sheep producing wool essentially different in quality, the same breeds varying much, and all breeds exhibiting qualities of wool of unequal fineness, in the same fleece. It is also sometimes the fact that the extremity of the fibre, as ascertained by the micrometer, is five times greater in bulk than the centre and root.

The fibre may be considered coarse when it is more than the five hundredth part of an inch in diameter, and very fine when it does not exceed the nine hundredth part of an inch, as exhibited occasionally in choice samples of Saxon-Merino wool. It is said there are animals which have a wool underneath a covering of hair, the fibre of which is less than the twelve hundredth part of an inch.



Merino Ewe.—Fig. 44.

The following cut will show the points in the *pure* Merino and Saxon where the different qualities of wool are to be found. The divisions do not always accurately correspond, but Lasteyrie and Chancellor Livingston, who were both familiar with pure Spanish Merinos, agree as to their general truth, and the observations of the writer confirm their decision.

It is, then, a matter to be studied by the wool-grower, who is desirous of propagating sheep of the fine-woolled varieties; for grades will often exhibit seven and eight qualities in the same fleece, whereas it will be seen that unalloyed breeds show but four qualities. Individuals have occasionally been found in original Saxon flocks whose fleeces would divide into only two sorts; but this is very rare.

The *refina*, No. 1, or the picklock wool, begins at the withers, and extends along the back to the setting on of the tail. It reaches only a little way down at the quarters, but, dipping down at the flanks, takes in all the superior part of the chest, and the middle of the side of the neck to the angle of the lower jaw. The *fina*, No. 2, a valuable wool, but not so deeply serrated, or possessing so many curves as the *refina*, occupies the belly, and the quarters and thighs down to the stifle joint. No. 3, or third quality, is found on the head, the throat, the lower part of the neck, and the shoulders, terminating at the elbow; the wool yielded by the legs, and reaching from the stifle to a little below the hock, is procured from the tuft that grows on the forehead and cheeks, from the tail, and from the legs below the hock.

*Length of the Staple.*—Formerly, wool of short staple only was thought by the manufacturer indispensable to make a fine cloth with a close pile or nap, but the improvements made in machinery within a few years, have superseded this consideration, and now long-staple wool is most valued. This in part proceeds from the fact that short wools have more "dead end," proportionally, than long; again, the new American enterprise, for manufacturing muslin-de-laines, calls for a long, tough, fine staple. The Australian wools, which are of Merino and Saxon blood, from the mildness of the climate of New South Wales, are very much longer in staple than formerly, and are much used for the above object. It is a query, however, whether a fine and very compact fleece, possessing a long fibre, can be produced on the same sheep. Very close, fine fleeces, are always comparatively short in staple; and close fleeces are indispensable in our rigorous climate, to protect the sheep from the effects of cold and wet; on the contrary, open fleeces are usually long in staple, but a poor defence against a low temperature. It is, therefore, a question for the wool-grower of the North to consider whether, in obliging the manufacturer, he will not adopt a policy injurious to the constitution of his sheep. In a more southern latitude, this consideration is not so important.

## LESSONS FROM EXPERIENCE.

As you declare your paper "free and independent," I ask the liberty to state my views respecting the last clause of your article on the "*Potato Rot,*" in the December No. of the Agriculturist. The clause reads thus: "Our readers will do us a great favor by giving us facts on this interesting subject, free from speculation."

My experience teaches me the entire futility of accumulating facts from ordinary observation on this subject; and that the mariner might, in ascertaining the velocity of his vessel, as well tie a living wild goose to his log-line and throw it overboard. But the reader will say, and truly too, any fool knows better than this. That is true; but in this case there is no danger of mistake. The error occasioned by the accidental attachment of the goose is too manifest to deceive. But one fact, among numerous others which might be mentioned, will suffice to show that causes not obvious have a decided effect in producing, as well as controlling this disease. A friend of mine, whose veracity I am willing to vouch for, relates the following facts: In planting his potatoes the last season, it so happened that he planted certain portions at different times; and in doing this it so happened that a portion of the field was planted after a heavy rain had fallen on the manure after being dropped in the hill. The whole was planted with the same kind of seed, and otherwise treated alike in every other respect—the only difference being this, that one portion of the dung was covered as taken from the heap, and the other exposed to the atmosphere in a drenching rain. The result was, that the potatoes on the portion where the manure was exposed to the atmosphere and the rain were but very little affected by the rot, compared with the portions where the manure was not so exposed.

Now it is a fact, that I could readily accumulate facts from my own experience and others in this vicinity, to fill a small volume; and yet every fact should go to support a different theory; and this assertion is not lightly made.

Again, I wish to enter my protest against your conclusion with regard to the cause of this disease, or perhaps I ought to say your opinion as to what the disease is. You say it is probably a "fungus." My experience, and it is a painful one, teaches me very different from this. I perfectly agree with you as respects the propriety of publishing long prosy articles on the subject; but as to what would constitute such articles, perhaps we differ. Of this I do not complain.

And I ask one more favor of you, and that is to state briefly the result to which my own experience leads me, and of the truth of which I feel not a shadow of doubt. It is caused *generally* by a substance poisonous to the tubers, which poisonous substance is eliminated during the decomposition of organized matter, nearly or quite in contact with the potato. I have said *generally*, because I believe any cause that kills the life of the potato may produce the same result. By the life of the potato I do not mean that kind of life that causes its growth, but that which resists decay. Hence, then, we see potato vines killed before the tubers are half grown, and yet the tubers do not rot. And farther, experience teaches me that this poison is almost universally eliminated early in the season, and dissipated or weakened by the powers of the soil too much to affect the tubers, so far as to destroy that kind of life in the potato of which I am treating. For ordinary seasons, then, this disease cannot take the form of rot. But in seasons like the last two, when it is very cold the first part, and the last is warm, this peculiar development of the decomposing geine takes place with great rapidity, and furnishes the poison with uncommon strength. My experience teaches me that heavy rains may dissipate this poison, and prevent its effects in some instances. My experience also teaches me that if the rains be just enough to wet the ground around the tubers, the plants being dry will drink in the poison greedily, and thus produce more disastrous effects than dry weather. You may see the same effects produced in grain plants, and far more *commonly*, because the plants mature when in common seasons the poison is strongest. My experience teaches me that numerous causes of different soils, seasons, &c., control the development of this poison, and that it requires the most elaborate and the most exact experiments to arrive at any definite results.

My experience also teaches me that this disease is not that "new thing under the sun" which people seem generally to believe it. Every potato which when boiled gives a fœtid smell, is infected with this disease; and these we find every year. They are poisoned, but the poison is not strong enough to kill them. JOSEPH H. JENNE.

*Peru, Me., March*, 1846.

As our correspondent proposes a continuation of this subject, we will wait till he gets through before making any comments. He is at least a shrewd and curious observer, and we shall be pleased to have all the facts of the case within his knowledge. Much valuable information is now being prepared for publication by scientific men, appointed by several of the European governments, to investigate the disease, among numerous districts of farmers.

**WATER FOR CALVES.**—Accident, last year, taught me that calves whose only food is milk, still need a supply of water daily. I had supposed they were fully supplied with liquid in their food. But in changing my calves from one lot to another, they passed the water trough, where they drank heartily. I acted on the hint, and supplied them daily afterwards. They drank as often as other cattle, for aught I know, though milk remained their main food. Perhaps everybody else knows this, but I did not, and lest others may not, let me speak a kind word for the calves who cannot speak for themselves. T.

*Ohio, March*, 1846.

## OVERSEERS AT THE SOUTH.

On page 24 of your January No., I observe a paragraph about overseers of farms and plantations; and on page 17, Mr. Norton's letter, in which he mentions the Agricultural School of Templemoyle. Sir Robert Ferguson I know personally, and he recommended two young men to me as stewards or overseers from that school, when I resided in Ireland, ten years past; and two better overseers, or more unexceptionable young men I never met with—perfectly competent to do their business. Mr. Jas. Anderson, Sir Robert's agent, and also one of the trustees or managers, is at present sending over at my desire, a young man from there as an overseer for a friend of mine here, Mr. Woodfine. If you want for your friends proper overseers, who know their business, I recommend their getting them from there. The salary mentioned, viz., $500, is ample for trial. One servant is quite enough to wait on one of them in the house, for they are brought up plainly, and will not be above helping themselves, giving such assistance as is necessary—such as sowing grain, showing the farm servants how to manage horses, plows, &c.; and I venture to say they will raise as much grain off of half the land as is at present done, and keep it clear of weeds and the soil from deteriorating. Indian corn they know nothing of; but a little instruction will put them in the way of raising as large crops as any one can on the same kind of ground. They are well versed in the care and management of cattle of all kinds. If any friend of yours should require an overseer, I will write to Mr. Anderson to do so, if certain of their being employed when they arrive. Wm. Murdock.

*Ashville, Buncomb Co., N. C., March* 27, 1846.

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## DISEASES OF ANIMALS, WITH REMARKS ON SHEEP HUSBANDRY.—No. 2.

My object in availing myself of the privilege of your periodical, to communicate some facts and incidents in animal medicine and agriculture, is purely the good of the farmer; for I have long been aware of the unjust contempt which the farmer has received from the other classes. I can hardly reconcile the remark of the great English moralist with the general good tenor of his writings and disposition, and of course do not agree with him in his remark upon an admirer of nature, that "that man's conversation savored of bullocks." It might have been the result of aristocratic feelings, produced by royal patronage; but whatever might have been the cause of this state of feeling in England formerly, it has now entirely subsided, and given place to a most laudable encouragement and patronage to all agricultural pursuits (even from the hand of royalty itself), as shown by the absorbing interest now taken in England in this branch, by some of her most eminent statesmen. This commendable zeal to raise the dignity of the husbandman has reached our own land, and may it be cherished by every patriot and philanthropist until our country shall be covered with the results of industry and science.

My object at present is, to mention some of the diseases among sheep and other animals, which have come to my own knowledge from observation, hoping that it may stimulate others to watch attentively the symptoms of every diseased animal on their farms, and search for the cause of death in every instance. No doubt many will say, "what can I tell of what part is diseased, or what it is?" Why, it is a very easy matter to learn the general structure of an animal. Every man looking at the inside of a beast can easily tell whether the liver, heart, lungs, stomach, and bowels appear healthy or diseased. If diseased, describe it; note it; perhaps others will become diseased in the same way, or have the same or similar symptoms. Examine the stomach, see what has been eaten, and where the animal has been feeding. By observing these things, the diseases of animals and their causes would be as easily ascertained, and consequently be as easily prevented or cured as those in the human subject, indeed much more so; for as the food of animals is more simple and natural, so would their diseases be fewer and more simple, and be more easily and successfully treated.

I have noticed since my residence in the *West*, at times nearly whole flocks of sheep extensively diseased, and the owner, or shepherd, hardly seemed to have any idea what was the nature of the disease, or what the cause; and so for want of a little proper study and reflection, hundreds of these useful animals die annually. As regards sheep husbandry in this section of the country, an important consideration presents itself. To supply the want and demand occasioned by the immense tide of immigration that is constantly rolling to the west, millions of sheep must be brought in. These, like ourselves, who have been raised and accustomed to a healthy climate and soil previous to our arrival here, but poorly bear the change; hence sheep and other animals become subject to new diseases, the result of new causes and new influences. It is in this way that the intelligence has gone forth that sheep will not do well on the western prairies. Now this is a sweeping conclusion, drawn from isolated circumstances; for there is as much difference in the situation of our prairies for health of both man and animal, as between a sea-coast and a lake-shore, and more so.

Many of our large prairies, upon which sheep are kept, are as level as a house floor; and for three or four months in a year are *almost* inundated with water. Every one informed as to the nature and habits of sheep, knows very well that they cannot long remain healthy in a wet or damp situation; and that they will sooner or later become diseased.

This is but one view of the case. Aside from the disease of moisture, the soil and atmosphere are impregnated with *miasm*, which is almost as deleterious to sheep as to man. Although I have not yet seen a sheep shake with the ague, yet I have seen dogs do so effectually—hence I draw the conclusion from extensive observation, that sheep and all animals, more or less, are frequently diseased with miasm, or the poison that exhales from the earth, and the decomposition of animal and vegetable matter. It is a *fact* that is well known in all the Western States, that the diseases of animals change materially from the diseases of old settled countries; both man and animal seem to be affected alike with the climate and different circumstances to which they are subjected. It was long ago noticed by Professor Drake, of Cincinnati, that hardly a hog was slaughtered at that market that had not a diseased liver. I have noticed it myself during seven years' residence in this section of country. To satisfy my curiosity, when I have had the opportunity in a number of cases of sheep dying from staggers, running of the nose, &c., *I have invariably found their livers to be extensively diseased.* It would be an easy matter to assign the cause of this and other diseases among sheep in the *West;* but we must be brief. In the first place, we must commence with those sheep that are brought here. One great error in most people is, that they look at lowness of price, instead of looking at quality and condition, and consequently a large portion are *very old and infirm,* the cullings from choice sheep, whose more prudent breeders would not part with. Such sheep cannot stand being driven several hundred miles. They are generally driven west in very hot and dry weather; the dust to which they are continually exposed, and which they inhale, is a constant source of irritation to the lungs and air passages, and completely deranges the whole digestive functions, and sooner or later the whole flock is extensively diseased. Such sheep generally die off the first winter in this country.

Again, sheep, as well as other stock, suffer much, and often die in summer season on the prairies for want of sufficient good water; such has been the case the season past; the drouth has been so great that streams that have usually afforded plenty of water have been entirely dry, and if animals obtained any *water at all it was very bad,* stagnated, and full of filth and *miasm.* I have often seen them sucking every particle of such *water,* when it looked so green and putrid that the very sight of it would excite in me a strong disposition to *nausea.* Dr. C. Stimson brought in a flock of two thousand sheep from parts of Canada and Ohio, during the warm and dry season of the past summer. They appeared to have suffered much from dust, fatigue, and heat. To add to their suffering and mortality, the drouth was so extensive that many died for want of water. I frequently rode by them on the *prairie* where they were kept. The taste that I always have had for sheep-raising, combined with the interest I felt for my friend, caused me to observe them very closely. Once in particular, one half-grown lamb and a sheep were completely prostrated for want of water. The shepherd had taken the lamb all the way in his arms, some three miles, to the stream, hoping to find water, but there was none—a number had already died.

It may be thought by some that I am too minute in the detail of circumstances; but I think a few instances like the above worth more than a volume of theory. If sheep or other animals do not do well here, there are good reasons for it! Many get a quantity, regardless whether they are the kind adapted by constitution, &c., to our climate, and the circumstances of the country, and turn them out to take care of themselves, and if they fail to do well, "*sheep business,*" *in their estimation, is* "*bad business.*" No prudent person can reasonably expect to succeed in this way. Sheep must be taken care of; they must have extraordinary attention, and that continually. They must have a sufficiency of good water, and that of easy access, so that they can drink whenever nature prompts. Many depend on springs and natural streams for water; this will not do; for the springs in this country generally fail nearly every summer; consequently an efficient well of water, with a good pump, should be provided. There is no excuse for not being duly supplied with the best water, for generally through the West it can be found on an average within thirty feet of the surface; and no impediment usually offers to digging. A pump with a little expense can be worked with horse, or even sheep power; or it may be contrived on the wind-mill plan for summer operation, for on our broad expansive prairies a day hardly passes without a fine breeze from some quarter. Narrow troughs or vats may be constructed in the ground, on the plan of a small canal, with hydraulic lime, and made with a little expense to convey water to any distance.

Let it be indelibly impressed on the memory of every one wishing for the health of his flocks, that they never should be allowed to drink at a stagnant stream or puddle. The shepherd must be up early, and his sheep cropping the moist grass, that they may be supplied before the heat of the sun enervates vital energies; and a shady grove with a few sheds should be secured in the feeding range; for during the summer sheep cannot feed with much comfort from nine in the morning to six in the evening; therefore it is highly necessary for the attendant to keep them out until nine or ten o'clock at night. Neither should they be huddled together in a close, dirty yard, so small and ill-ventilated that they are obliged to inhale each other's breath. Again, another great error is not only the keeping of too many together, but of those of different kinds. Ewes and lambs never should be kept with wethers, nor bucks, *except in the proper season.* Many young lambs and weak sheep are teased and fatigued by bucks and wethers until they are completely overcome, and die in consequence. A diseased or affected sheep never should be allowed to remain with the healthy; the flock should be closely watched, and as soon as a diseased one is noticed it should be instantly removed to its appropriate place—*the hospital.*

As the season is fast approaching when many will undoubtedly be preparing to drive sheep, in their way of immigration into this country, one word of advice from one who has long been experienced in sheep husbandry may not only save them many a dollar, but do a service to our western population likewise. Select such sheep as are hardy, of a rugged and sound constitution. They should be from one and a half to four years old, which is the true scale to be confined to in that respect. Old sheep will not only die off after arriving here, but should they be ewes (which kind it is supposed will mostly be brought as breeders), they will not raise their lambs. Sheep younger than one a half years will not stand the fatigue of a long journey without much trouble and care. It will well pay, and be a great saving in the end, to give something more for choice kinds of sheep.

In driving, never feel in a hurry, be at home; and for that purpose fix well before the start, so that comfortable quarters can be had on the road without fretting to push ahead. See well that the sheep have plenty of time to rest and eat, and plenty of good substantial food: for such a purpose have them accustomed before starting to eating threshed oats, which are a nourishing and unstimulating food for the road. Recollect that sheep will naturally be a little feverish on the road, and will require plenty of good water, and that often, and on that account never *over-salt*, for fear they should drink so much as would cause them to scour bad, and thereby become weakened.

Andrew Stone, M. D.

*Lake Court House, Ind., Feb.*, 1845.

## THE POTATO DISEASE.

I shall not attempt to account for this disease, but shall give some facts derived from experience, which may go far towards a prevention. Many writers have attempted to explain the cause of the disease; some by supposing it to be insectial, others again say it is caused by a fungus. If a medical man should find insects or proud flesh in or about a wound, would he pronounce the insects or proud flesh to be the cause of the wound, or the effects of diseased action? It must be known, or should be, to all natural philosophers, that when vitality ceases, either in the whole, or in any part of organized matter, it immediately begins to change into other organisms, many of which products bear no resemblance to the original organic product. It follows, of course, that we should be very careful in our investigations not to attribute effects to causes; for, by such a mode of reasoning, we never can find a cure for either animal or vegetable diseases.

In raising potatoes in the part of England I came from, the rocky strata calcareous, we always found the best and soundest product from new land that had received no manure; and never considered they could be of *prime quality* when grown in soils *highly manured*. To obtain choice potatoes for family use, we set men to grub up the bushy districts, and in such soils we never failed in raising a sound and choice product. Limestone soils we always considered more agreeable to the potato crop than soils principally argillaceous. The farms, therefore, on the chalk downs, were celebrated for this esculent. I had an uncle on the Wiltshire downs, at a town called Kennett, whose potatoes were in great repute, and I have seen spots in a field, plowed for potatoes, turn up white chalk to the surface. He fatted his pigs and cattle on steamed potatoes, until two or three weeks before killing he gave them grain to harden the fat. They were washed in a machine, five bushels at a time, and the steamer held about thirty bushels. He once gave to a hog some of the liquor left in the kettle below the steamer, and this liquor nearly killed the animal, bringing all its hair off, and it was more than two months before it fully recovered from its effect.

In confirmation of the advantage of lime in soils, for raising this crop, we had presented last fall to the Brooklyn Natural History Society, three samples of potatoes raised by Mr. Ladanskie, near Jamaica, Long Island; one portion of the land was manured with stable manure, one portion left without any manure, and a third portion was well limed. Those produced on the limed land were perfectly sound, whilst both the others were generally defective.

I have one more fact to offer which I consider highly important to our farmers. We made an acre of garden on the sea-sand, at Gravesend, Long Island, and in the compost heap we used about thirty per cent. of fine charcoal. It would be useless to describe all the other materials used, as they were numerous, being a collection of everything we could scrape together that could be obtained without cost. Among the numerous articles were the refuse of a whiting manufactory, of about half a sloop load, and twenty-one barrels of the refuse of a soda water manufactory, or pure plaster of Paris. In this garden we planted our winter potatoes the year before last, and they were not only sound, but the most delightfully tasted of the kind we had ever eaten. The last year some of the same kind were planted on a piece of old meadow land, and they were not only unsound, but disagreeable to the taste, and we had to discard them, and buy for family use.

I infer from the above-named facts, that lime unburnt, or burnt, and charcoal, are the best preventives for the disease in potatoes, and for otherwise improving their quality.

Any farmer, in this woody country, has waste limbs of trees sufficient to make one or two thousand bushels of charcoal annually, which he could render sufficiently fine for his purpose, by passing a heavy roller over it on any hard ground. This would be no great labor for an industrious man. Let him, when he plants a potato, put in with it about a quarter of a pint of fine charcoal and ground oyster shell in about equal quantities, and I feel pretty confident that his product will not only be sound, but of very superior quality.

Farmers who cannot obtain charcoal or ground shell, can buy it ready prepared, and mixed in due proportions, from a Mr. Atwater, of New Haven, Connecticut; or it can be obtained in this city. Mr. Atwater has invented a machine for grinding bones, shell, &c., fine enough for all agricultural and horticultural purposes Such a machine is a great desideratum for bone, as this article, when in lumps, will take many years to decompose; and its beneficial effects be so slowly developed, as to induce the consumer to condemn them as useless. Mr. A. will prepare a mixture of fine charcoal and lime shell, also of charcoal and ground bone. I am pretty certain, from actual experiment, as before mentioned, that charcoal and lime, if planted with the potato, about a gill in each hole, would prevent the rot. I should expect as good or a better result from the charcoal and ground bone, as the bone supplies not only lime *but phosphate*, one of the elements of that esculent. At all events, let some of our farmers try the latter, and report the result; for I cannot speak of it from actual trial, the only real test to be relied on. It will be perceived that one bushel of either of the above mixtures will suffice for two hundred and fifty plants; a cheap and safe manure, producing no weeds.

Charcoal should always be used with bone manure, or more than two-thirds of its fertilizing virtue will be lost to the farmer. For, as bone decomposes, it gives out a large quantity of ammonia, an alkali so volatile as to be lost by evaporation, unless combined with some material that will retain it, and charcoal will hold of this gas four hundred times its own bulk, giving it out to the plant as required.

I would suggest to our farmers the folly of planting potatoes in any soil in which water cannot freely percolate, as stagnant water will inevitably ruin the product. Wm. Partridge.

*New York, April,* 1846.

## AGRICULTURE IN NORTH CAROLINA.

I promised to furnish your paper with an article treating of the system of agriculture pursued in the eastern section of North Carolina generally; and you have been pleased to ask me for one in relation to my own method of farming, particularly. Had I not *promised* to furnish something on the subject, I would now shrink from the task; for I know full well that I cannot impart any instruction or valuable information in the description I should give of agriculture as it *exists* at present in our section of the country. I use the term *exist* in a passive sense, and in contradistinction to that in which I would use it were I residing in a country whose agriculture was in a flourishing or even progressive condition. But I grieve to say, that here, with some very few exceptions, our farmers are content to plod along the same slipshod, slovenly, wasteful course of impoverishing their lands, and themselves, which reduced those who formerly owned the lands either to beggary or emigration. So universal has been the bad management in the eastern section of North Carolina (and I may with truth include the same sections in Virginia, South Carolina, and Georgia) on the part of planters, that an estate is now seldom owned by two generations of the same name or family. Nor is this the least melancholy reflection arising from a view of this picture; for with the extinction of ownership to the land by children of its former proprietor, there soon follows the extinction of his family or name; poverty, death, or emigration, to distant lands; in a few years effacing well-nigh from the memory of those who are left behind, that such persons ever dwelt in their neighborhood. You will naturally ask, is there not some special cause at work to produce such melancholy results, and if so, is there not a remedy to check its further progress?

My own decided belief is, that the primary cause is attributable to the gross ignorance and neglect of those to whom the proprietors have hitherto confided the management of their estates. I mean our overseers or managers; and that our remedy consists in an entire remodelling of the old system. This you will readily understand when I state the following case, as a fair sample of the management of a Southern plantation. Mr. A. becomes possessed of a tract of very fair land, say 1,250 acres, valued at $15,000, of which from 800 to 900 acres are cleared; he also owns some 25 working hands (old and young inclusive), which, with his stock, farming tools, &c., &c., cost him some $15,000 more. Here, then, is a capital of some $30,000, invested in a plantation, as it is termed. What is the first thing that he does? Why, to hire an overseer, that is, a white man to live on his plantation, manage his negroes, and "make a crop." Whom does he select for such a purpose? Why, generally speaking, some young man in the neighborhood, who is too indolent himself to work for a support, but is ready to make others work for it—perfectly and thoroughly ignorant of everything relating to agriculture, or anything else, with the exception that he has occasionally taken hold of a thing called a plow, drawn by one horse, and which he skims over the surface of the ground, or mayhap scratches it to the depth of one or two inches—has probably dropped corn here and there, over this surface, and covered it sometimes with a clod and sometimes not at all; and then afterwards gone through his corn rows or whatever they may be, three or four times each with the plow and hoe—and this he calls planting and "tending the crop." He may have "farmed" it this way in an effort to "raise" corn, wheat, cotton, tobacco, &c., either on his own account or that of one of his neighbors, who were short-handed, and hired him for the purpose at different periods of the youth's "growing up." He probably may have been to school long enough to have learned how to read, and, with prodigious effort, to write, and go through a simple sum of addition, multiplication, and subtraction; but even *without* these accomplishments he considers *himself* properly qualified to manage your farm, or, as it is called, "carry on your business." He receives, as a salary, from $150 to $350 per annum; his provisions are found him by his employer, that is, a sufficiency of pork, or bacon and meal, the use of a cow, a horse to ride over the plantation, a house to live in, and a woman to cook and wash for him, &c. Generally speaking, therefore, excepting a small deduction for their clothes, they spend very little of their salary.

Now it is scarcely worth my while to say anything in relation to the system of farming carried on under such auspices! Would not any mercantile establishment in New York or London, however vast its resources, soon explode, if the management of its affairs were entrusted to one so little versed in his business, as this overseer palpably must be in that which he presides over? Can any one wonder now at the picture I have presented, when the first object the eye rests upon is this odious deformity? Should you desire it I will finish the landscape at a subsequent period. Excuse this hastily written scrawl—the truth is I take no pleasure in the recital. T. Pollok Burguyn.

*Ravenswood, N. C.*

To destroy the Bee Moth.—A correspondent from Winchester, Ohio, asks as to the best method of destroying the bee moth. There are various articles on this subject in the back volumes of the Agriculturist; but if any of our readers can furnish us additional succinct information on the prevention of the moth, we shall be glad to hear from them—as *prevention* is the great desideratum. There are various authors on the Bee, such as Bevan, Townley, &c., whose works may be had from 25 to 50 cents each. These all treat fully of the bee moth, and it would be scarcely fair for us to copy much from these authors.

## A REVIEW OF THE MARCH NO. OF THE AGRICULTURIST.

MANY writers in different agricultural papers have occasionally attempted the task of reviewers; but few have succeeded, except that excellent "Commentator," the late Hon. James M. Garnett, of Virginia. I do not expect to equal him; yet in the hopes of doing good when he can do no more, I am disposed to make one attempt.

The March number, 1846, of the American Agriculturist is before me. Do the readers of this paper ever think how much there is in this name to be proud of? How much more than all the records of heraldry, should we feel proud of this name; and how our children should be taught to feel that they never can enjoy a more worthy and honorable name than that of an *American Agriculturist?* No other of all the "Farmers," "Planters," "Cultivators," and numerous names of our growing family of Agricultural papers, conveys to my mind such an extended meaning as does the name of this paper. It is a name that all the agriculturists of our loved country should be proud of —may this paper be so conducted that we shall also be proud of it. Let us proceed now to review it, and if we find faults, and comment upon them, recollect such is the task of a reviewer.

*Vignette.*—Before looking at the matter, let us dwell a moment over the *vignette.* It is a picture of such a home as every American Agriculturist ought to enjoy. It is a lovely view in harvest time. Yet the plow continues to run. It might be said by some that so productive a farm should have larger barns, if not so tasty, so as that there should be no necessity of "stacking out." I doubt this. See Vol. 1, page 335, of the Agriculturist for illustrations, and an admirable article upon stacking. I doubt the economy of building barns to house grain. It will keep better in stacks if well put up on such foundations as are laid for stack bottoms in England, on stone or cast iron pillars. But the threshing-floor should be in the barn, or what would be much better, a building built solely for a threshing-floor, around which the stacks could be built. Grain can be stacked more green than it can be housed. . . . . . That distant windmill reminds me of a motive power very applicable to the prairie of the West, but very much neglected. . . . . . The cattle and horses in the *American park* are no scrubs. But their breeding tells a tale that should teach us the folly of further importation of stock into a country so capable as this is of raising our own from those we now have, and as fine as can be done in England, if we try—we now have the seed—the blood. . . . . . Those geese in the view may be very picturesque, but deliver me from the filthy brutes around the house and yards. Besides, I am no advocate of feather-beds. Hair, wool, cotton, moss, shucks or husks of corn, or even straw, are far better and healthier, in my opinion, than feathers. And certainly cheaper. Nothing but habit could ever enable a field-laborer to endure the enervating influence of a feather-bed in August.

*The Motto.*—Next comes a motto from the pen of an American *nobleman.* It always makes our blood tingle to read it, and we are proud to rank ourselves in a class headed by the name of George Washington—the father of American Agriculturists.

*The Place of Publication.*—This is worthy of a passing note. As New York has become the great centre of commercial transactions, so it is for many reasons the most fit place for concentrating useful information; and certainly it possesses more facilities for an editor to make up a paper worthy the name of this one—national in its character—than any other point in the United States; and like the city, the paper should continue so purely *the national paper* of the American Agriculturist as to be without a rival.

*To Agricultural Societies.*—After this long preface, we at length reach the first article. A most liberal offer on the part of the editor and very gentlemanly publishers of this paper. Fifty cents only a year! Who could believe it, for such a useful, entertaining, and handsomely illustrated periodical? I hope many societies throughout the Union will avail themselves of your generous offer. Let me recommend them in all cases to take the bound volumes. They are beautifully bound in black cloth, and gold lettered, and only 75 cents to members of Agricultural Societies. Why, it is the very *cheapest* work ever issued from the press. Another suggestion. Let the publishers have a certificate printed to bind or paste in each volume, intended as a prize, something in this form—"This volume is awarded to A. B., of Brooklyn, by the Kings County Agricultural Society, as a premium and certificate that he exhibited the third best milch cow, at the show held at Flatbush, for the year 1846," &c., &c. . . . . Speaking of lectures reminds me, that agricultural societies could not make a better appropriation of money than devoting a small annual sum to pay the expense of lectures. You can get men to *hear* who cannot or will not *read.* And you must get them to read or hear before they will think. If a man does not think, how can he act and improve? How else can their minds be "opened to conviction," so that they can see "what is for their best interests?"

*Early Plowing.*—Good advice, which being interpreted, means, do all your plowing in the fall; and do it well and deep, with a *good* plow, and not with that old rattle-trap which you have been plowing with for five years past. Is it possible that any man in possession of sense enough to read your paper, Mr. Editor, needs to be told that it is very poor economy to work his team, or land, or self, or hands, in rainy weather? If he is a good farmer, he will always have "a job for a rainy day" kept in reserve. . . . . . For spring grain upon "a stiff clay," I had rather have one acre fall-plowed, than two acres "mud-hauled" over in the spring. And generally speaking, the one acre will produce the most wheat or oats, and it does not cost so much to plow two acres in the fall as one in the spring. This difference, a merchant would think was a tolerably fair profit.

*Parsnips.*—This article is not like the almanacs, that are calculated to suit all parts of the United States. It would hardly suit the meridian of the Miami or Wabash Valleys, to quit corn and take to parsnips However valuable the root crop may be in some of the Eastern States, I could never recommend farmers to try it for feeding stock, where they raise corn for ten or twelve cents a bushel, as is the case upon millions of acres west of the Alleganies. Where roots must be grown, I have no doubt that parsnips would be found a valuable crop. But the soil must be very rich, and very deep and mellow. For a field crop, one of my neighbor Ruggles & Co.'s biggest subsoil plows should be used. . . . . There is one more valuable property of this root which you have not mentioned. A field of them is worth all the recipes in creation to keep the rabbits away from the young fruit trees. Let them have plenty of parsnips to eat, and *they won't gnaw the trees*. . . . Has any one ever attempted to make sugar from parsnips? They certainly contain much saccharine matter, and in that consists their great fattening qualities. With the "potato cholera" spreading through the country to an alarming extent, it is full time for us to look for a substitute, both for man and beast. For the latter it may be found in the parsnip, probably better than either of the other esculents. If we could at the North adopt that universal dish of the South, it would suit our money-saving propensities to eat hommony, while Irish potatoes (what a bull to call them Irish) were selling at a dollar a bushel. But habit and fashion are both tyrants. But let us quit the field, and go to—

*The Stable, No.* 8.—The first thing that catches the attention of nearly all readers of taste is, the picture. Pray, Mr. Editor, what is that bird-cage looking thing, up in one corner of the stall, high over the trough? Is it intended to put hay in? If so, it is well called "*a rack;*" defined in my dictionary as "*an engine of torture.*" . . . If your horse is a very bad kicker, and can kick high enough to reach that "engine of torture," for mercy's sake turn him around and let him expend his "excess of nervous energy," till he kicks that abomination of the horse stable out of fashion. . . . . Whenever I discover that it is natural for a horse while feeding in the pasture, to constantly stretch his neck giraffe-like, into the top of the trees to look for grass, then, and not till then, will I insist that my noble friend shall pursue the same course in the stable. Until then he shall be allowed the privilege of stretching his neck *down* instead of *up* for his hay. . . . . There is one other method to prevent kicking. It is the Indian mode; and can be adopted in situations where there are none of the appliances of the stall which you describe—that is, on the road, or in the camp, where the malicious kicker will often injure his fellows. This method is the hobble, or fetters. They need not be so short as to impede the movement of the horse around his feed; but if he attempt to kick, he finds there is a limit to his heels, and he will soon desist, and perhaps be cured in time of the habit. . . . Your recommendation "to shoe all kickers with flat shoes, without corks," is calculated for a "Southern latitude." And, generally, there they are not shod at all. In fact, all the recommendations of the article are better suited to the operations of a large stable than to the wants of "American Agriculturists."

*Alpacas.*—This is a Peruvian product, which I certainly shall not object to see imported in any quantity; and I have not the least doubt but the contemplated importation will prove one of the most valuable for this country that ever took place; and I most sincerely hope it will turn out as profitable as it is honorable to the gentlemen engaged in the enterprise. I should like to be personally engaged in the voyage, where I could see and note the habits of the animals upon their own native hills. . . . . But let me inquire, is it the best route to bring them around Cape Horn? Cannot they be shipped to Panama, in smaller and cheaper vessels, with much less fitting for the boisterous passage of the Cape? From Panama to Porto Bello it is 60 miles; and formerly there used to be an immense trade carried on between the two cities, and I suppose there is still a passable mule road across the mountains, over which the Alpacas could be driven, and at Porto Bello take a first class vessel, and short run to New York. As this would so greatly shorten the passage, which is usually the greatest difficulty with animals on ship-board, and if feasible would also be less expensive, it is perhaps worthy of consideration. I feel very anxious that the first experiment should be successful, and that it will prove that these valuable animals can be introduced into this country at a moderate price, and thereupon thousands will follow; and I fully believe that they will be found among the most valuable of our domestic animals. I love them, too, because they are Americans.

*American Agricultural Association.*—"What's in a name?" Why, much in this to make us hope that it is not like that whilom got up at Washington city, a mere "sounding brass and tinkling cymbal." Verily nothing so good as a "National Agricultural Society" could flourish in so sterile a soil as that of Washington. I hope the "American Agricultural Association" will grow, if nothing else, at least a cargo of Alpacas. REVIEWER.

We think the above review in part of our March No. a racy and agreeable article, and we regret that it came to hand so late that we cannot give the whole of it. Reviewer promises, if our readers like him, to continue the subject. Will they let him hear from them anent this matter? He is welcome to criticise any articles which we write to his heart's content—we promise, for one, to take no exception to them. Our readers will understand that the matter interpolated in brackets is ours.

TO KEEP MEAT FRESH IN SUMMER.—A cheap and simple refrigerator, for keeping perishable articles sweet during hot weather, may be thus constructed· Take plank (*hemlock* is best to resist rats), plane one side, and form a hollow trunk about 30 inches in diameter, open at the ends, and as long as your ice-house is deep. Place it erect in the centre of the ice-house, and fill in the ice around the hollow trunk. Into this ice-well meat may be let down by cords and hooks. Or, what is a better plan, a box may be suspended from a little windlass fixed to revolve at the top, and meats, butter, &c., securely kept; and, if desired, they may be lowered deep enough to freeze them. Q. E. D

# Ladies' Department.

## TO THE GIRLS.

For a long time I have wished to have some communication with my young friends, the country girls, and bespeak their aid in the protection of our mutual pets, the birds, that are inviting our attention and kindness by their sweet songs, and gentle and coquettish ways. They flock around our dwellings, and, if properly invited and noticed, accept our hospitality and repay us a thousand fold for all that we bestow upon them. When we take the trouble to provide a few houses for them, how readily are they taken possession of, and how fiercely guarded, should an intruder dare to rob them of their home; showing how dear to them is their possession, and giving us the assurance that nothing is required but shelter and protection to have flocks around us, and they sufficiently tame to be our household friends and companions. But especial care should then be taken to guard against the thousand dangers that beset them in the shape of boys and cats, their mortal enemies; and worse than useless will have been all our trouble, if these deadly foes are suffered to molest them. In addition to all you already feel on the subject, I will offer a few extracts from the invaluable journal of the Old Lady, which, for some time, has been my constant study. The following notes were taken in June; but I offer them to you now, that you may be in time to prepare the houses, get rid of the cats, and persuade the boys by kind entreaty and gentle remonstrance to suspend their hostility, for their own interest as well as your gratification.

*June* 12th.—This day has been one of peculiar interest. As usual I rose at 4 o'clock, and while standing at my window to watch the gradual advance of day, and inhale the fragrant air, and listen to the rich melody that poured from every bush, like hymns of praise from the good spirits that had protected us during the night, my attention was attracted to a tree close by my window, where a little song sparrow had built her nest. The male bird was seated on a far-off branch, singing his sweet and merry strains over and over again, as if in love with his own melody, while the mother-bird was attending to her duties in the nest; presently she flew to have some communication with her mate, when his song ceased, and off they went in different directions, but in a few minutes one of them returned with a worm which he gave to the rest, and instantly departed; after a short interval the other came in, and like her mate lost no time. The serious business of the day appeared to have set in, and not a moment was to be lost; so I took the hint and went about my morning task, but determined to take my sewing as soon as possible with my seat close to the window, and make myself more intimately acquainted with the family arrangements of my sweet neighbors. They had for a long time been so familiar with my appearance, that they took no other heed of me than a bright cheerful chirrup as they rested for a moment on a branch close by, and then off to their task again. At 8 o'clock, A. M., I began to note down their arrival, by making a stroke with a pencil each time they entered the nest, and never quitted the window until 8 in the evening, when the birds went to roost for the night—the mother on the nest, the father on a branch close by. On counting the pencil strokes, I find, to my amazement, that they averaged a worm every three minutes during this long day; for I took care to be certain that they were as diligent before I took my seat by them as they were afterwards. The day has been sixteen hours long, my pets have consequently destroyed 320 worms in one day! In one week this single family will have killed 2,240, and in one month nearly 10,000, unless some cat should discover the nest. Surely I need have no further anxiety about my grape vine, whose wormy appearance troubled me so yesterday, when I found the worms so far out of my reach, and the boys too busy to attend to it. I will trust to my little sparrows, and take care that nothing shall molest them.

13th.—To-day I have spent both painfully and pleasurably in the garden, looking after my fruit, flowers, and birds. The fruit I find sadly injured by the insects, and must be closely watched, and all that is infested by the worm carefully gathered and destroyed, or I shall have little or none next year. Some fine flowers and rare strawberries are killed by the cut worm, whose history I must inquire into; and, saddest of all, I find that fifteen birds' nests have been destroyed by the cats, since last I counted them. At any time this would have grieved me, but, since yesterday's investigation, I feel that it is a loss too serious to be borne with impunity; for, if one family of birds requires 2,240 worms in one week, fifteen families would take 33,600! Had my birds' nests remained, would my fruit and flowers have suffered as they have done? Alas, no! and all this from my ungrateful cats—so the cats, petted and beloved as they have been, must die, all but Tabby, who shall be taught better things if possible. I will try what can be done.

In another part of the Journal I find this memorandum: I am now satisfied that I have been able to teach Tabby the laws of kindness and forbearance, for she has been in the bird cage to eat the bread and milk, while the bird remained unmolested on the perch; the doves, squirrel, and cat, shared their meal out of the same dish, and at night my little white rabbit shared her box with pussy. This has been brought about by caressing puss while I fed and handled the other pets, and by showing displeasure without severity when she attempted to injure them.

Now, my dear girls, can any of you read this extract and not feel grateful, not only to the Old Lady, but the sweet birds who are rendering you so much service whether you do anything for them or not? A little study of their history will teach you their immense value on the farm as well as in the garden, and you will feel that if you successfully protect and cultivate them, you will be of more real service to your country than many a general whose name is written in history. The wrens, sparrows, blue birds and swallows, you will find most willing to accept your hospitality; but most of all the sparrow, who soon learns that she may not only hop into the room, but share the crumbs on the tea-table.

I had a little family so tame that they gratified me by sharing my meal whenever I left the door open, and invited them by throwing a few crumbs o attract their attention. The wrens and sparrows vie with each other in the destruction of worms and other insects, while the blue bird will eat more weed seeds in a day than, if suffered to grow, a gardener could pull up in a week. The swallow makes war upon flies of all kinds, and will be found most useful in ridding us of the common house fly (*Musca domestica*), those nasty pests that destroy our cleanliness and comfort during the summer months. The natural food of the larva or young of the house fly is horse manure, in which the eggs are deposited early in the spring. The maggot soon hatches out, and feeds voraciously for a few weeks, when they pass into the chrysalis state, and in a few days swarm out in countless numbers to feast on our greatest delicacies, and become our household pests. Swallow boxes should therefore be on every stable in the country, and the chimney birds never molested, though they do make a sad dirt on our nicely painted hearths, unless we are careful to put a board up to catch the litter.

The cat-birds will be our familiar friends, if the boys will only be persuaded not to throw stones at them or rob their nests; and, as they live a great many years, the same bird will return and build in the same bush while she feels you are kind to her. The foolish story that cat-birds bring snakes, arises from the fact that snakes are fond of cat-birds' eggs, which they are constantly on the look out for; therefore, when a boy hears the screaming of a cat-bird, he may be sure she is in distress, and, instead of killing the poor bird, had better look for the snake and kill that, which will be a real service; as all the cat-birds which can be persuaded to live with us are wanted to eat the cut worms, vine worms, and other insects which do our gardens and farms so much injury. If they do eat a few ripe cherries now and then, surely we may well afford to spare a little fruit in consideration of the good they do us—besides, if it were only for their sweet song, I would be willing to share my ripest cherries with them. My cat-bird is so tame that one day I found her in the kitchen quietly feeding on a loaf of bread. She has her nest in a grape vine under my window, and comes to be fed when I call her.

There are a few directions I wish to be observed in putting up the bird boxes—those for the wrens should have very small holes, or the blue and cat-birds will be apt to get in and tear up the nests; while those for the blue birds should be at a respectful distance from the wrens, perhaps on the other side of the house, or they will watch their opportunity and return the compliment, as they have a great dislike to each other. The wren boxes should not be very close, and if possible out of sight of each other, as they object to too many near neighbors; but you may place them as near your own window as you wish, and provided you do not trouble the young the day they leave the nest, they will care little about you.

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TO PREVENT BRASS VESSELS FROM CONTRACTING VERDIGRIS, AFTER BEING USED.—Instead of wiping them dry, it has been found, that by constantly immersing them in water, they are kept perfectly innoxious, and will remain for years fully as clean and nearly as bright as when they first came out of the hands of the workmen.

## KNITTING.

THOUGH at present, Mr. Editor, a lonely and comfortless old bachelor, I still live in hopes one of these days of getting married; and if I do, I trust it will be to a woman *who is a great knitter*. Of all the many accomplishments which adorn the gentler sex, I do assure them, from the *very bottom* of my heart, that I esteem knitting among the greatest.

This subject has been forcibly brought to my mind by the reception, a moment ago, of a pair of the most comfortable kind of woollen socks, from a good old aunt of mine, *famous for knitting*. The yarn is of the very best kind, hard twisted, and the stitches drawn so tight on the needles during the progress of the work, that the socks are as compact as a piece of buckskin; and then the heels are so substantially run, that although famous for kicking half a dozen holes per day through such hose as I purchase at the stores, I am sure these will wear me weeks without needing to be touched by the darning needle of my complaining washerwoman. I must confess, Mr. Editor, I was so overjoyed at the sight of these socks, that the tears absolutely came into my eyes on beholding them; and I could not resist the pleasure of immediately trying them on, and when on, they felt so comfortable that they at once revived all my youthful feelings, and before I was aware of it, I began incontinently taking the almost forgotten steps of the double-shuffle, greatly to the annoyance of my sedate landlady in the lower story of the house. Ah, yes! commend me to a knitter—that is comfortable.

When I get married, I intend my wife, with knitting needles in hand, shall be seated in her easy chair by my side, every evening that she is not otherwise engaged; I will then take up some book for her edification, and read aloud. Thus work and instruction will go hand in hand. Ah, how the anticipation of the thing delights me! Would that I were to be married to an accomplished knitter to-morrow!

The German ladies carry their knitting-work to all places of amusement, whether public or private, and why should not ours do the same? In a time of great pecuniary national trouble, an eminent writer on political economy made the calculation, that if our women would knit as much *stocking* yarn as they foolishly misspend in *street* yarn, the national and private debt of the United States would be paid off within a twelvemonth. How true this may be I cannot say, as I care little for political economy—but much, very much for knitting. I hope the ladies will not think me enthusiastic, as it is in their behalf I am pleading; for I verily know that knitting is not only a highly useful, but a most agreeable occupation. Else why should some of our ladies have recently carried their knitting-work to the Senate chamber, to pass the whole day, to listen to the burning eloquence of Mr. Webster; and why else do we find them knitting on board steamboats, and canal boats, on railroads, and even in stage-coaches, except as an amusement to pass away the heavy time. Commend me, then, to a knitting wife—a gentle being whom I hope it will yet be my happiness to possess!

[illegible]

## Boys' Department.

### RUMPLESS FOWL.

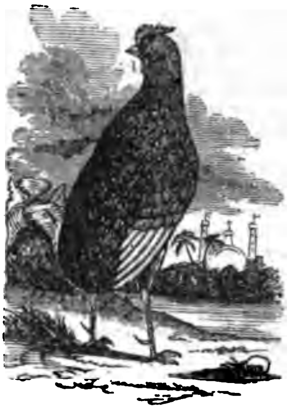

Fig. 45.

This bird derives its name in consequence of wanting feathers in its tail, and should therefore be denominated a *tailless* rather than a *rumpless* fowl. However odd it may be in appearance, we know from experience that it is an excellent breed of fowls, having kept them for years. We found them hardy, good layers and nurses. They are of medium size and of various colors, though the golden brown speckled predominate. It is destitute of the gland on the rump, which we believe is found in every other variety of the domestic fowl. A tail is as useless an appendage on fowls as horns are on cattle, and if the boys wish to cultivate a profitable breed of fowls there is nothing equal to the humble rumpless.

### SPRING WORK.

Now, boys, is the time for active work. This is just as important in its place as are the schools and studies of winter. Not that I would have you neglect your books altogether, even though you cannot attend school. By no means; you must give many leisure hours to study and reading during the summer. But with most of the boys who read the Agriculturist, this is the season when labor takes the lead, as study does during the cold winter months. You have had a fine time for the latter; now, for the former. You need to begin *right* here as in everything else.

" Everything in its season." You have often heard that if a man loses an hour in the morning, he may toil hard all day and cannot overtake it. So it is with the year. This is the time for fitting the ground and planting the seeds. Now is just the best time for doing this. It is early in the spring, just when the trees and the plants all about you are putting forth their leaves and flowers. This is nature's time. If this be passed in idleness, you will get no good crops this year. Just as when youth is passed in idleness and vice, it can never be recovered in after life.

Now, then, for a few weeks, is the season. Everything for the year depends on it. If you would see the flowers of summer and the golden fruit of autumn, be active now in putting your grounds in the best state, and in planting in the best possible manner such seeds as will give you those flowers and fruits. And after they are planted, don't let a weed grow in all the grounds. Remember, that it costs just as much strength of land to grow a weed as it does a useful plant; and that the weeds are great robbers of the plants. Begin now, and keep on, and your hearts will be gladdened by and by with the reward of your labor.

" Everything in its place." This is another important lesson for you to learn. I suppose you have your little axes and hoes, and rakes, and other tools, suitable for boys, as I recommended you last year. If not, you will have your father get them at once. And then you are to see that everything is kept in the very best order, and is always put in its place. An axe left out in the rain to rust, or a hoe left in the ground over night, is a very slovenly and wasteful practice. On no account should you ever suffer it. No work is ever finished, not even for the day, till all the tools employed are put in their proper place. You will find, as you grow older, that it costs less time to put everything in the tool place at night, than it does to find it in the morning, or to wear off the rust from such as can rust, if you remember where you left them. Lately, I hired a man, and set him to making a ditch. He took my mattock, spade, and shovel, and when he finished the work, left them all on the ground where he last used them. Of course I dismissed him at once, for my tools were covered with snow that night, and much injured before they were found. Here he lost some days, and I sustained considerable damage by his not having learned when a boy, to put " everything in its place."

" Everything well done." " Whatever is worth doing at all, is worth doing well," was the motto of a man who performed a most incredible amount of labor, and was one of the greatest men of his age. And it is precisely the doing things well, or the botching them up anyhow for the present, because they are in a hurry, that makes some men rich and respected, and others poor and despised. The former always have time at their command. The latter are always in a hurry, and always losing from the effects of their poorly done work. The former have good fences, good buildings, good fields, good everything. The latter have poor fences, unruly cattle, leaky barns, damaged crops, poor everything. The former always have " good luck." The latter are always fretting at their " ill luck," in part their own shiftlessness. Learn to do everything well.

But I must stop right here. T.

*Ohio, April,* 1846.

Experiments.—Well, boys, what do you propose doing the coming summer? Can any of you tell? Will you let the season pass *negatively* away? or will you make some experiments in gardening or farming with a view of testing certain principles? For example: do any of you expect a favorite calf? If so, will you weigh it when first dropped from the cow; then learn it to drink milk from the pail, and weigh every particle it consumes till old enough to kill; then weigh the calf again and see how much flesh it has gained on every hundred pounds of milk consumed, and give us the result.

## FOREIGN AGRICULTURAL NEWS.

By the steam-ship Caledonia we are in receipt of our foreign journals up to April 4th.

Markets.—*Ashes* had declined and were in limited demand. *Cotton* was more firm and had recovered the fall of ⅛d. per lb., which took place early in the month. Stock on hand at Liverpool on the 1st of April, 788,000 bales, against 809,000 same time last year. *Flour* quite stagnant, in consequence of the agitation of the Corn laws in Parliament. *Beef* in fair request. *Pork* very dull. *Lard* and *Cheese* the same. *Rice* little doing. *Tobacco* slow of sale. *Wool* in good request, with a slight fall in the lower qualities.

*Money* is tight and difficult to be had, except on the first class paper.

*Indian Corn in Great Britain.*—This article continues to arrive in great quantities in the principal ports of this country, and is already becoming one of great consumption. In Liverpool we have several flour dealers and bakers who put forth Indian corn, Indian flour, and bread made of Indian flour, as the prominent article of sale; and amongst the higher classes of society it is used with English or American flour in making bread. At a meeting of the Horticultural Society, held in London, last week, there were distributed to the members a large quantity of packets of seeds of the early sort of Indian corn, the earliest and most prolific variety, and the most suitable for cultivation in this country, which had been sent over from New York to ascertain whether its growth would not introduce a fresh article of food here.

*Potato Murrain.*—This disease has now appeared in carrots and onions in England, and it is feared it may ultimately pervade all the root crops.

*A Startling Anticipation.*—Unless a succession of bad harvests intervene to check prosperity, the year 1850 will behold the extinction of horses as a moving power in England, for the purposes of pecuniary gain, in the public transportation of passengers and goods. Every new street, every village, every farm will have its railway.

*Cotton in India.*—At a recent meeting of the Royal Asiatic Society, a communication was read from Professor Royle, the botanist of the East India Company, detailing some further results of the experimental trials for the culture of cotton in India. Since the last report of Dr. White, 30,000 acres had been put into cultivation; from one acre alone the produce was 700 pounds, and more was to be expected. All now required to make East India Cotton a most valuable export commodity, he said, is the employment of European agents in the India markets, to select the best qualities.

*Number of Horned Cattle in Europe*:—

| | |
|---|---|
| Russia | 19,000,000 |
| Great Britain | 10,500,000 |
| Austria | 9,942,000 |
| France | 6,684,900 |
| Prussia | 4,275,700 |
| Italian States | 3,500,000 |
| Spain | 2,500,000 |
| Netherlands | 2,500,000 |
| Sweden | 2,647,000 |
| Bavaria | 1,895,000 |
| Denmark | 1,607,000 |
| All other States | 5,258,000 |
| Total in Europe | 70,270,974 |

The number of Horned Cattle in the United States in 1840, were 14,971,586.

*Guano at the Cape of Good Hope.*—Several farmers and gardeners at the Cape have used considerable quantities of guano this year, with marked success in all kinds of crops. It is the best and most manageable manure yet discovered.—*Simmond's Mag.*

*Deep Drains.*—We notice that several writers in the late volume of the English Agricultural Society Journal, contend strongly that drains in a very stiff soil are much more effectual from three to four feet deep from the surface, than when made more shallow. Another advantage is, that they may be placed twice as far apart as the shallow drains. Thus the expense of deep draining is very little more than that of shallow draining.

*Benefits of Irrigation.*—The same journal above asserts that the water meadows at Audley End yield from 6 to 8 tons of hay per acre, at three to four cuttings during the season. We will add for ourselves that such hay cannot be as sweet and nutritious as that grown on dry meadows. The Italian rye-grass is considered especially suitable for irrigation.

*Value of Burnt Clay.*—Experiments with burnt clay as a top-dressing to wheat lands, last year, added 25 per cent. to the crop.

*Culture of Italian Rye Grass.*—I am quite satisfied of its being the most valuable plant I know of, especially for early spring feed; it comes to perfection for feed quite as early as rye, and the comparison between the two for feeding qualities is as 10 to 1 in favor of the Italian rye-grass.—*English Ag. Soc. Journal.*

*Analysis of Indian Corn.*—Dr. Playfair has recently analyzed specimens of American growth in London, and finds its composition as follows:

| | | |
|---|---|---|
| Protein, | 7 | 100 parts. |
| Fatty matter, | 5 | |
| Starch, | 76 | |
| Water, | 12 | |

One pound of Indian meal will absorb five pints of water in making it into mush or pudding, and when sufficiently boiled the mush will weigh 4 1-2 lbs.

It will be seen from this analysis that it contains less protein, or nutritive matter, than wheat, oats, or barley, but more than either rice or potatoes. It contains, in fact, three and a half times the quantity of nutritive matter that is found in potatoes, and a very much larger quantity of starch, and less water. It also possesses more fatty matter than any of those, which is an important consideration where the mere fattening of animals is considered. It will be thus found, as an article of diet, both for man and beast, superior to potatoes and rice, but inferior to wheat, oats, and barley.—*Gar. Chron.*

*A Mode of Illustrating the Injury done to Manure by being repeatedly Flooded with Rain Water.*—Suppose that any of the married men in this company was to get hold of his wife's teapot, after she had done with it, and was to dry up the leaves carefully, and bring them to her for her tea the next morning, I would just ask you, whether she would be likely to find out the trick or not? I imagine she would not be long in discovering the cheat; and I might venture to guess he would find out to his cost that, if that was the way he was to keep *her in tea*, she would soon find a way to keep him in *hot water*. Now, if the wife would feel so indignant at being supplied with tea that had been wet two or three times, how ought the farmer to feel that was supplied with manure that had been wet two or three hundred times? It is true the farm cannot fight its own battle as well as the mistress; but there is such a thing as passive resistance, and you may depend on it, that in the harvest, the farmer will be made to feel, that in cheating his land, by giving it manure which has lost all its strength, he has been, in fact, cheating himself, and that this may have a worse result even than cheating his wife.—*Speech of Mr. Blacker.*

# Editor's Table.

The publishers of the American Agriculturist, with this number, send bills to all who are in arrears, and will expect them to remit the small amount promptly. It will be remembered that our terms are in advance; and at the first of the year we requested all who did not wish the paper to return the first number, and those who have not done so are considered as regular subscribers. The publishers are highly gratified at the promptness of subscribers in forwarding their subscriptions, and trust that the few who are still in arrears will find it convenient to remit at once by mail, that we may thus have clean books and renewed facilities of improving our Journal. Should any error arise in sending bills please inform us.

**Agricultural Institute.**—We neglected at the time to call attention to the advertisement of this Institute in our last number. We are personally acquainted with the gentlemen concerned in it, and can recommend them with all confidence to the public. We like their plan of instruction accompanied with manual labor, and think it must be highly successful with their pupils. See Advertisement, page 167.

**Cortland County Ag. Society.**—Henry S. Randall, President; James S. Leach, Sec. We have received the premium list of this Society, and find it embraces a large number of prizes. The Show takes place at Cortland Village on the 23d and 24th of September next. It will doubtless be a highly spirited affair, and we hope it may be in our power to attend.

**Mowing Machine.**—We are anxious to obtain one of these machines, and shall be obliged if any of our readers know of any which work well, that they will give us full information on the subject.

**China Tree, Dutton, Early Canada, and Sweet Corn.**—Can any one inform us where we can purchase a first-rate rate quality for seed, at a moderate price, of these varieties of corn? We should like some in the ear and some shelled.

**Munificent Donations.**—Messrs. Sam'l Appleton & J. A. Lowell, of Boston, have each given *One Thousand Dollars* to the Massachusetts Horticultural Soc'y. When shall we have a Horticultural Society in this great emporium? and will our wealthy citizens come forward and endow it as liberally as the Bostonians have that of their city?

**To prevent the Potato Rot.**—Take salt, lime, and charcoal or ashes, mix them equally together, and apply about a gill of this mixture to each potato hill at the time of planting, or double the quantity round the stalks after the first time hoeing, and it will almost infallibly protect the crop from the rot.

**Sheep Farms and Husbandry in Missouri.**—Henry A. Ancrum, Esq., of Ashley, Pike Co., Missouri, informs us that he has a large tract of the finest kind of rolling prairie land, suitable for sheep pastures, and would be glad to make an arrangement with flock masters to occupy it. Ashley is 80 miles from St. Louis. For further particulars please address Mr. Ancrum, who will be happy to give full information upon the subject.

**Quarterly Journal of Agriculture and Science.**—We are glad to hail the appearance of this able and high toned journal again, for we feared it might not be continued another year. It abounds with valuable articles, both agricultural and scientific, and we earnestly commend it to the attention of our readers as worthy of their support. It is conducted by Dr. E. Emmons, State Geologist, and A. Osborn, Esq., Albany, N. Y. The present No. has a beautiful steel-engraved portrait of Governor Wright, and several other embellishments. It contains 160 pages, and is as well got up as the best European journals of the kind. The price is only $2 a year. We shall think it a disgrace to the country if this work is not well sustained.

**An Encyclopædia of Domestic Economy:** Comprising such subjects as are most immediately connected with housekeeping; as the construction of Domestic Edifices, with the modes of warming, ventilating, and lighting them; a description of the various articles of Furniture; a general account of the Animal and Vegetable substances used as Food, and the methods of preserving and preparing them by cooking; making Bread; materials employed in Dress and the Toilet; business of the Laundry; description of the various Wheel-carriages, preservation of Health, Domestic Medicines, &c., &c. By Thomas Webster. Illustrated with nearly One Thousand Engravings; pp. 1238, octavo. Price $4. Harper & Brothers, 82 Cliff Street, N.Y. In presenting this superb and highly useful work to the public, the Messrs. Harper have done the country a great service. We consider it indispensable to the housekeeper, as it treats in a condensed and perspicuous manner of everything relating thereto. The ladies would do well to place it in their libraries for daily consultation. The knowledge it contains will not only be found eminently useful to them in their household avocations, but of historical and general scientific interest. There are thousands of facts here we are sure it will greatly enlarge and enlighten their minds to be the possessors of, and the acquisition of which will add no little to their pleasures and usefulness.

**American Natural History.**—By John D. Godman, M.D., to which is added his last work, the Rambles of a Naturalist, with a Biographical Sketch of the Author. In two volumes. Third Edition. Philadelphia: Uriah Hunt & Son. Price $4 00. This is a beautiful edition of one of the most agreeable and useful books in the English language. The illustrations are numerous and exceedingly faithful to nature. We can never cease to regret the premature death of Dr. Godman; but as it was, he ran a brilliant career, and during his short life added much to the records of American Natural History.

**Memoirs of the Pretenders and their Adherents.** By John Heneage Jesse. In two volumes. Philadelphia: J. W. Moore. This beautifully printed work forms Nos. 1 and 2 of Moore's Select Library. It combines in its truthful narrative the adventures of the wildest romance, and is particularly calculated to interest the youthful student of history.

**Journey to Ararat.** By Dr. Friedrich Parrot. With Map and Wood cuts. Translated by W. D. Cooley, pp. 389, 12mo. Price 50 cents. Harper & Brothers, 82 Cliff Street, N. Y. It is a great misfortune that a taste for the lighter productions of the European press in this country has generally forbidden the republication of scientific voyages and travels, which are occasionally sent forth by eminently learned men abroad, and foreign governments. Among such is the work of Dr. Parrot's journey to Mount Ararat; which, from its being the resting place of the ark, after the subsiding of the awful flood that deluged the world, and its own intrinsic grandeur and importance, in what may yet become a highly civilized and populous region, must ever be an object of interest to the biblical student, the general historian, and the man of science. Ararat rises 17,230 feet above the level of the sea. Its top is covered with eternal snow, from the height of 12,750 feet, and all around is grand and magnificent in the extreme. May it be our privilege one day to wander, at least, at its base! The Messrs. Harper have issued this work in a style similar to English publications, the print being very clear and distinct, and the paper of a firm velvety softness, that makes it a pleasure to touch.

## REVIEW OF THE MARKET.

### PRICES CURRENT IN NEW YORK, APRIL 22, 1846.

| | | | | |
|---|---|---|---|---|
| ASHES, Pots, | per 100 lbs. | $3 87 | to | $4 00 |
| Pearls, | do. | 4 18 | " | 4 25 |
| BALE ROPE, | lb. | 5 | " | 7 |
| BARK, Quercitron, | ton, | 25 00 | " | 26 00 |
| BEANS, White, | bush. | 1 12 | " | 1 25 |
| BEESWAX, Am. Yellow, | lb. | 28 | " | 33 |
| BOLT ROPE, | do. | 12 | " | 13 |
| BONES, ground, | bush. | 40 | " | 55 |
| BRISTLES, American, | lb. | 25 | " | 65 |
| BUTTER, Table, | do. | 16 | " | 25 |
| Shipping, | do. | 9 | " | 13 |
| CANDLES, Mould, Tallow, | do. | 9 | " | 11 |
| Sperm, | do. | 25 | " | 38 |
| Stearine, | do. | 20 | " | 25 |
| CHEESE, | do. | 5 | " | 10 |
| COAL, Anthracite, | 2000 lbs. | 5 50 | " | 6 50 |
| CORDAGE, American, | lb. | 11 | " | 12 |
| COTTON, | do. | 6 | " | 11 |
| COTTON BAGGING, Amer. hemp, | yard, | 13 | " | 14 |
| Kentucky | do. | 12 | " | 13 |
| FEATHERS, | lb. | 26 | " | 34 |
| FLAX, American, | do. | 7 | " | 8 |
| FLOUR, Northern and Western, | bbl. | 5 31 | " | 5 50 |
| Fancy | do. | 6 00 | " | 6 50 |
| Southern, | do. | 5 00 | " | 5 50 |
| Richmond City Mills, | do. | 6 25 | " | 6 50 |
| Rye, | do. | 3 25 | " | 3 38 |
| GRAIN—Wheat, Western, | bush. | 1 15 | " | 1 25 |
| Southern | do. | 1 10 | " | 1 20 |
| Rye, | do. | 73 | " | 74 |
| Corn, Northern, | do. | 67 | " | 68 |
| Southern, | do. | 67 | " | 68 |
| Barley, | do. | 62 | " | 65 |
| Oats, Northern, | do. | 43 | " | 45 |
| Southern, | do. | 38 | " | 40 |
| GUANO | do. | 2 00 | " | 3 00 |
| HAY, in bales | 100 lbs | 65 | " | 80 |
| HEMP, Russia, clean, | do. | 205 00 | " | 210 00 |
| American, water-rotted, | ton, | 105 00 | " | 185 00 |
| American, dew-rotted, | do. | 75 00 | " | 125 00 |
| HIDES, Dry Southern, | do. | 8 | " | 10 |
| HOPS, | lb. | 20 | " | 35 |
| HORNS, | 100. | 1 00 | " | 7 00 |
| LEAD, pig | do. | 3 75 | " | 4 00 |
| Sheet and bar | lb. | 4½ | " | 5 |
| MEAL, Corn, | bbl. | 3 25 | " | 3 38 |
| Corn, | hhd. | 15 75 | " | 16 00 |
| MOLASSES, New Orleans, | gal. | 29 | " | 31 |
| MUSTARD, American, | lb. | 16 | " | 31 |
| NAVAL STORES—Tar, | bbl. | 1 75 | " | 2 00 |
| Pitch, | do | 1 25 | " | 1 38 |
| Rosin | do. | 62 | " | 70 |
| Turpentine, | do. | 3 50 | " | 4 00 |
| Spirits Turpentine, Southern, | gal. | 55 | " | 59 |
| OIL, Linseed, American, | do. | 64 | " | 65 |
| Castor, | do. | 60 | " | 73 |
| Lard, | do. | 67 | " | 70 |
| OIL CAKE, | 100 lbs. | 1 75 | " | 1 88 |
| PEAS, Field, | bush. | 1 50 | " | 2 00 |
| PLASTER OF PARIS, | ton. | 2 87 | " | 3 00 |
| Ground, in bbls., | of 300 lbs. | 1 12 | " | 1 25 |
| PROVISIONS—Beef, Mess, | bbl. | 7 00 | " | 9 00 |
| Prime, | do. | 4 50 | " | 5 50 |
| Smoked, | lb. | 6 | " | 9 |
| Rounds, in pickle, | do. | 4 | " | 6 |
| Pork, Mess, | bbl. | 10 50 | " | 13 00 |
| Prime, | do. | 9 00 | " | 10 00 |
| Lard, | lb. | 6½ | " | 7½ |
| Bacon sides, Smoked, | do. | 3 | " | 4 |
| In pickle, | do. | 3 | " | 4 |
| Hams, Smoked, | do. | 6 | " | 10 |
| Pickled, | do. | 4 | " | 7 |
| Shoulders, Smoked, | do. | 5 | " | 6 |
| Pickled, | do. | 4½ | " | 5 |
| RICE, | 100 lbs. | 3 75 | " | 4 56 |
| SALT, | sack, | 1 22 | " | 1 30 |
| Common, | bush. | 20 | " | 35 |
| SEEDS—Clover, | lb. | 6½ | " | 9 |
| Timothy, | 7 bush. | 11 00 | " | 16 00 |
| Flax, clean | do. | 10 00 | " | 11 00 |
| rough, | do. | 9 00 | " | 10 00 |
| SODA, Ash, cont'g 80 per cent. soda, | lb. | 3 | " | 3 |
| Sulphate Soda, ground, | do. | 1 | " | — |
| SUGAR, New Orleans, | do. | 5 | " | |
| SUMAC, American, | ton, | 35 00 | " | 37 50 |
| TALLOW, | lb. | 7 | " | 8 |
| TOBACCO | do. | 3 | " | 8 |
| WHISKEY, American, | gal. | 22 | " | 22 |
| WOOLS, Saxony, | lb. | 35 | " | 54 |
| Merino, | do. | 30 | " | 30 |
| Half blood, | do. | 25 | " | 35 |
| Commondo | | 20 | " | 22 |

REMARKS.—*Ashes* transactions light. *Cotton* dull at a decline of ¼ of a cent per lb, since the arrival of the Caledonia. *Flour* little doing. *Grain* the same. Indeed, there seems to be an almost unexampled lethargy in our market just at this moment in all kinds of produce.

*Money* is scarce, and the banks discounting none but the best paper.

*Stocks* a good deal depressed.

*The Weather* has been very fine, though rather too dry thus far this spring. Copious showers, however, have set in lately. We hear good accounts of the crops at the South; and winter rye and wheat are looking uncommonly well at the North.

---

TO CORRESPONDENTS.—L. T. Talbot, Henry M. Waite, T. N. Hallister, Solon Robinson, M. W. Phillips, Alexander McDonald, Lert, An Old Grazier, are received. The excellent article, Rotation of Crops, by S. Y., will be inserted in our next.

---

ACKNOWLEDGMENTS.—A pamphlet on the cultivation of the Grape and manufacture of Wine, also character and habits of the Strawberry, by N. Longworth, of Ohio; Report of the Committee on Agriculture of the New York State Assembly, with a valuable Appendix on the use of Salt as a Manure; Oration before the Burk County Ag. Soc., S C., by M. C. M. Hammond; Address before the Hamilton County Ag. Soc., Ohio, by John Caldwell; Proceedings of the Agriculturist's and Mechanic's Association of Louisiana; and a Letter upon the Application of Marl addressed to the Agricultural Society of Jefferson County, Georgia, by J. H. Hammond.

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References—Frederick J. Betts, Esq., President of the Orange County Agricultural Society; John Caldwell, Esq., Salisbury, Orange County; A. B. Allen, Esq., Editor of the American Agriculturist; Wm. Partridge, merchant, New York; Peter H. Schenck, Esq., New York; Hon. Morris Franklin, New York; and the officers of the American Institute.

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ROTTERDAM.

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VOL. V. NEW YORK, JUNE, 1846. NO. VI.

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## APPLICATION OF LIME.

Lord Dundonald, an English nobleman, who spent most of his life and fortune in experimental farming and gardening, states in his "Treatise showing the Intimate Connection that subsists between Agriculture and Chemistry," published in 1795, that lime, when easily procured and properly *slacked* with water, immediately spread on the ground and plowed in, if applied in great quantities, will occasion a too immediate dissipation in a gaseous state, of the vegetable matters contained in the soil, from which the succeeding crops can only be benefited by the proportion it is able to receive during the dissipating process. Hence it is manifest that an economical and frequent application of lime, in moderate quantities, either mixed with peat or other vegetable matter, or even by itself, is greatly to be preferred to those abundant dressings of lime usually given at one time, which cause an action on the soil more powerful and violent than is conducive to, or compatible with, a continued state of fertility. In short, lime should be considered in a chemical and medicinal point of view, when so applied, acting as an alterative, corrector, and a decompounder; a disengager of certain parts of the animal and vegetable substances contained in the soil, and as a retainer and a combiner with others; and is not to be regarded by the practical farmer as a substance fit for the immediate food and nourishment of vegetables, like dung, or decayed vegetable or animal matters. For, although calcareous matter, or lime, forms a component part of vegetable and animal bodies, still the quantity that can be obtained from the annual produce of most crops, from an acre of ground, will not exceed eighty pounds weight. This fact has been well ascertained, and if proper attention be paid to it in regulating the conduct of the agriculturist, in the future application of lime, it will prove more satisfactory than all the chemical reasonings adduced in his treatise.

## IRON HURDLE FENCE.

We have frequently been asked the cost of this kind of fence. Through the politeness of a gentleman of this neighborhood, who has just made an importation to enclose his pleasure grounds, we are enabled to give full particulars as to its cost, size, &c. Each hurdle or panel is 6 feet long and 5 feet high, with a post in the centre, thus making the posts 3 feet apart. The posts are of flat bars of iron, 1¼ by ⅜ of an inch. There are five bars in each panel. These are of round iron, ⅜ of an inch in diameter. The weight of each panel is 75 lbs.; costing, laid down in this city, with duties, freight, and all expenses paid, 4 cents per lb., or $3 per panel, or 50 cents per running foot, of the fence. A well made picket fence, with locust posts, costs 38 cents per foot. With the exception of the posts, this would require renewing every fifteen or twenty years. The iron fence will last a century or more. It is consequently much the cheapest in the end, besides being far more ornamental; it also has the further advantage of not obstructing the view—indeed at the distance of 100 yards it can scarcely be seen. It can also be taken up at any moment with great ease, and set in any other place desired, it being moveable at will. The iron posts have spreading claw-feet, which are inserted in the ground, and hold it up very strong. The panels are joined by two bolts passing through holes bored in the posts, and then screwed up tight with a nut.

The above is the heaviest kind, called ox-iron hurdles, the fence, standing strong enough to resist the most unruly animal. We can recommend this kind of fence highly, having seen it in extensive use in England, and in a few places in the United

States. We will import it in any quantity to order. A lighter kind can be had if desired, which will come something cheaper per foot. Of course it will not be as strong as the ox-hurdles.

## THE STABLE.—No. 9.

We recur again to the subject of biting, as our cut for this month illustrates another method of managing the biter. The instrument as shown serves a triple purpose, viz., it is a muzzle to prevent biting, crib-biting, and wind-sucking; no article about a stable is of more use, where there are vices requiring its use. An inspection of it will render a description needless. It is of iron, and is to be attached to the leather of the head-stall; it *should be riveted* on fast, to secure its constant use, where it is required.

Many valuable horses, as we have before mentioned, are incorrigible biters; and yet they are so valuable that they must be kept. Of this kind was imported Messenger, the source whence came our best strains of road horses. He killed at least two men, and yet was preserved. He did it by his teeth and fore feet. He caught them (his grooms) in his teeth, and forced them under his feet, when he bit and stamped them to death. Had his mouth been muzzled he would have been harmless, for no horse ever does mischief with his fore feet until he has first used his mouth, except, as is sometimes the case, when a stallion will rear on his hind legs and strike with his fore ones. Such as these last rarely ever bite, and never rear in the stable, and of course muzzles are useless to them. They are safe in the stable, and only dangerous out of it when they have length of bridle rein allowed them. If the groom keeps them close, by the head, they are harmless. Sometimes, however, it is necessary to give them their heads. To guard against their striking at such times there should be a thong in the head-stall of the bridle, which may, by a jerk of the rein, be forced into the skin. This will quickly bring the horse to the groom, and make him quiet, and will, after a few repetitions, teach him better manners. But even if the thong be not attached to the bridle, the groom can easily avoid such a striker; he rears at some distance from the groom; his movement is seen; he cannot readily move on his hind legs, and then but in one direction. If the groom steps aside, and jerks the bridle rein as the horse passes, he is brought to the ground, and is at command on shortening the rein.

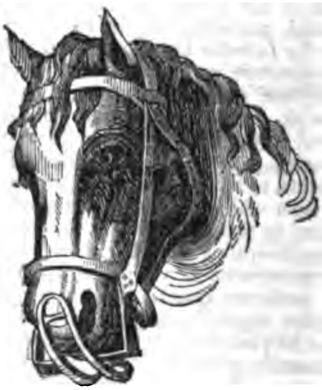
But if he first seizes with his mouth, and then strikes with his feet when within the grasp of his jaws, the groom is at once in the power of the horse, and teeth and feet soon do fatal execution. Against just such a danger the iron bar muzzle of our cut is a perfect preventive. The groom cannot be brought under the feet of the horse until within the gripe of his jaws. Here the muzzle is the security. It is used in this manner—it is attached to the halter (which should *always* have a secure throat-latch); what in the halter is ordinarily a leather nose-piece, or strap, is in this muzzle iron; the side straps are of leather; to these should be sowed a buckle; the bits and reins of a bridle may be buckled on to them, and the halter then becomes a bridle, with the muzzle on. If the horse be a biter out of the stable as well as in, then keep the muzzle on always. If he be not, then take it off when he is to be brought out.

The cross-bars in front of the mouth are close to the lips; this leaves the horse free to eat his hay and grain with the muzzle on; and will admit his eating grass if the pasture be not close-cropped or mown. His breathing is not at all affected, and is as free as without the muzzle.

The expense of this muzzle is small, and any smith may make it. The cross-bars should be riveted on, and not welded.

Crib-biting and wind-sucking are effectually prevented by this muzzle.

The crib-biter is so called because he seizes the manger (*crib* as it is called in the Saxon language, manger in French; *crib* being the word formerly used to designate what *manger* now does), and swallows air. When the teeth are firmly grasped on the manger (or any other object which is firm and the mouth can enclose), the horse arches his neck, settles back slightly on his quarters, and braces with his fore feet, and with a grunt swallows or gulps air into the stomach; this he will continue until he is filled. A crib-biter can never be in order; his belly will be distended, and his breathing restricted and laborious; he will be flatulent, and constantly breaking wind, and frequently attacked with colic. All these added will keep him ever lean; and the colic will at times unfit him for work entirely, and even endanger or deprive him of life.



Crib-Biter.—Fig. 46.

The crib-biter cannot swallow air unless he has his teeth grasped on something. This the muzzle of the cut prevents, and yet he can feed. By this, then, a crib-biter's habit may be broken up, and he be rendered sound and useful.

Wind-suckers differ from crib-biters in this, they place the teeth closed against the manger (or anything else that is near, if it be firm) and swallow the air, but not with so much grunting and gulping. The results are the same. For the wind-sucker the muzzle is a remedy. The nose strap should be of leather, and should be buckled tight, so that he cannot force his nose so far down as to place the teeth against the bars; for if he can, he will wind-suck as well with it as without it.

A strap is frequently used to prevent wind-sucking and crib-biting. It is buckled around the neck close to the head. It certainly prevents the vice, but it endangers the horse, and when long used is sure always to bring on derangement of the windpipe; by its use roaring and inflammation of the throat and such diseases are frequently produced. The muzzle is a better preventive, and is free of danger in every respect. There are horses, however, that will wind-suck without placing their teeth against the manger. Such horses can be controlled only by the strap, and on them it must be used. With it they are in danger, but may be useful; without it they are useless, and of course worse than worthless, for they consume and pay not.

We have now brought our stable articles to a close for the present, and are happy to say, that they have had some influence with the public, especially in their arrangements for proper ventilation. Several gentlemen in this city and elsewhere, have availed themselves of hints thrown out in these numbers, and have constructed new stables on a plan highly to be commended. We shall probably give illustrations and descriptions of one or two of these hereafter. To conclude, we say, give your horses plenty of fresh air, but keep them out of the cold, damp currents; and, furthermore, sweeten the atmosphere in the stables, and around the premises, by sprinkling plaster of Paris, or charcoal dust, or both, over the straw and floor, and in the manure. These substances fix the ammonia arisingtherefrom, and are in themselves highly fertilizing, so that they not only render the atmosphere pure around, but add to the value of the manure heap. By following our directions, disease will scarcely be known in stables, and they will no longer be considered as nuisances in the vicinity of a gentleman's residence.

## GRASS AND HAY.

As the season for securing the hay crop is at hand, we solicit from our friends who are curious, yet economical, in matters of this kind, to give us condensed statements of well-tested experiments of their mode of culture, and of curing this valuable crop. The following extract of a letter from Mr. Isaac Bowles, of Winthrop, Me., to the Awarding Committee of the Kennebec Co. Agricultural Society, will show what may be done, even among our eastern neighbors, when proper means are employed:—

"The soil on which my crop of hay grew, is a very deep yellow loam, with a clayey rocky subsoil. In the spring of 1841 it was plowed, and about forty loads of compost manure were evenly spread over the piece, and planted to corn. In the spring of 1842 it was plowed and sowed to wheat. I sowed 30 lbs. of red and white clover and one peck of herds grass seed. On the 26th of June, 1843, my hired help cut the grass of the first crop, which had not at this time arrived to heading out, and the fifth day after, it was dry enough to haul to the barn. The quantity of hay was ascertained by putting up the cocks as near of an equal size as we could judge. One or more, not larger than an average lot, of the same, was weighed, and computing the whole number of cocks by that, found these contained 5 tons, 9 cwt., 90 lbs., on one acre and one quarter of land. The second crop was cut the fifth day of September. From this crop there was 1 ton, 8 cwt., 17 lbs., from the same land, making in the whole 6 tons, 18 cwt., 7 lbs."

Mr. Bowles, we understand, first prepared his land some years ago for a crop of Indian corn, and raised one hundred and sixteen bushels to the acre.

## SCOTCH LACTOMETER OR CREAM-GAUGE.

The object of this instrument is to ascertain the proportion which the cream bears to the milk, of any particular cow, or the produce of a whole dairy. If new milk is poured into graduated glass tubes, and allowed to remain, the division between the cream which floats upon the surface of the milk will be so clearly defined, that its depth may be easily measured; and should the milk from any cow produce more cream than that of another, the difference will be seen by the divisions or marks on these tubes. The lactometer consists, then, of two or more glass tubes, half an inch or more in diameter, and eleven inches long, fitted into an upright wooden frame; each tube having a fine line drawn round it, ten inches from the bottom; three inches from the line downward it is graduated into inches and tenths of inches. At the time of milking each tube is to be filled up to the top line with new milk. After standing twelve hours, the quantity of cream which floats upon the surface will be shown by the scale of inches and tenths; each division representing one per cent. of the whole.

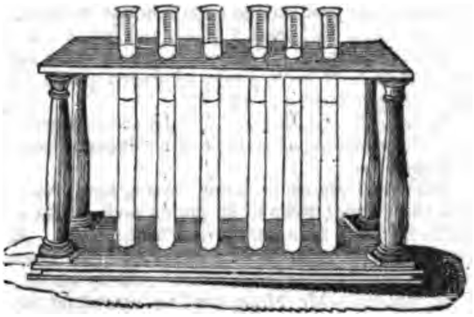


Fig. 47.

If the amount given at one milking be a gallon, or eight pints, and the thickness or depth of cream which floats upon the surface of the milk in the tube, occupies 14 divisions, or one inch and four-tenths of the scale, multiply the number of pints in a gallon, 8, by the depth of the cream, .14, and the result will be the produce of cream of that gallon, namely, 1.12, or one pint and twelve hundredths of a pint.

Care must be observed to fill the tubes as soon as the milk is taken from the cow; for, should any delay take place, a portion of the cream will have risen towards the surface. The milk to be tested should be taken from the middle of the pail, which may be done by dipping a small pot below the froth.

Muck is the mother of the meal chest.—*Old Scotch Saying.*

## NEW YORK FARMERS' CLUB.

This branch of the American Institute continues to hold its meetings, as usual, on the first and third Tuesdays of each month, free of charge. At the last three sessions various topics were discussed, among which were the feeding and management of stock, and the nature and application of Indian corn and other grains.

*Soiling, &c.*—Dr. H. A. Field stated that he had found during summer, that it was a bad practice to change the food of cattle often. From feeding on clover, or oats cut green, and putting them suddenly upon green corn-stalks, he found that his cows became thin. His method of soiling them was as follows: To select a piece of land neither wet nor very dry, and make it as rich as possible by manuring, at the same time studying economy. In September, sow rye—double seed it—it will come early in spring; then sow oats, clover, and the common field pea, which will be of a heavy growth. After the rye is off, sow Indian corn broad-cast; cut the stalks while they are green and tender, before it has tasseled. You can have two, and even three or more, such crops of corn in a season, by beginning early and continue to sow for several weeks in succession. Thus, you can sow rye in September, oats, peas, and clover, early in spring, and corn in early summer. If this green food should cause diarrhœa, give the cows for a while dry feed. In this way you can keep up your green crops from snow to snow! He said that four of his cows which were stabled in winter, and soiled in summer, after this plan, had yielded about $300 worth of milk the year past, sold to certain hotels in summer, for two and a half cents a quart, and for four cents a quart in winter. Two cows which gave only five quarts daily each, produced eleven quarts each after being stabled and well fed.

*Remedy for the Heaves.*—Mr. Hancock presented the following recipe for thick-windedness or heaves in horses:—

Take 180 grains of tartar emetic, and divide it into three equal doses of 60 grains each. Mix one of them in wet bran, and give it to the horse. Repeat the dose once in two days, and his disease will be greatly alleviated, if not perfectly cured.

*Arracacha.*—Mr. Meigs read an interesting paper on the arracacha, an umbelliferous plant, found wild in the elevated regions of equatorial America, where it is also cultivated for the sake of its root. In the Andes of Popayan, Los Pastos, and New Granada, it is as extensively grown there as the potato, and is far more productive than that plant, yielding, according to some statements, sixteen tons of roots to an acre, while the potato does not average more than nine or ten tons. It is said, however, to be somewhat less nutritious, as it contains a larger proportion of water. The root of the arracacha resembles that of a gigantic parsnip, with numerous fangs, and in flavor is thought to be something between that of the parsnip and roasted chestnuts. Each root is said to weigh from four to six pounds, when grown on good land, and serves as an excellent article of food. But the question naturally arises, will it grow in the open air in any part of the United States?—a question that can only be answered by actual experiment. The temperature of the Andes where the finest fields of this plant occur, varies from 64° to 82°F., where there is no frost, no cold weather, nor dry summer heats, where it must have six months of favorable weather to perfect its growth. From various experiments made in different parts of Europe, it will not bear frost, and very dry weather is equally fatal to it; and besides, it is a difficult crop to preserve through the winter, owing to its great proneness to decay. Consequently it would be ill adapted to the northern, and in most seasons, to the middle sections of the Union. Should this plant ever succeed in the United States, as a field crop, the mountainous parts of the Carolinas, Georgia, and of Texas, will probably be the theatre of operations.

*Composition of Corn, &c.*—Mr. Browne presented specimens of several varieties of Indian corn, accompanied by a diagram showing the chemical proportions of the various kinds of corn, beans, peas, &c., from original experiments made by Dr. C. T. Jackson, of Boston. He also repeated several of the experiments, as illustrated by the diagram, and showed the proportions of starch, dextrine, and phosphates, contained in the corn, with the view of proving that the ingredients of which the different varieties are composed, are not uniform, and consequently the analysis of one kind alone cannot be of much practical advantage when applied to the whole. In splitting open, longitudinally, some kernels of Tuscarora corn, and dropping upon them a small quantity of the tincture of iodine, nearly all of their bulk was instantaneously changed from a pure white to an intense blue, indicating the presence of starch, with here and there a deep port wine colored speck, which defined the parts composed of dextrine. In treating some rice corn and pop corn in the same manner, only slight traces of starch were manifested, showing, conclusively, that the proportions of the ingredients of which the two varieties are composed, are widely different. Again, in soaking some split kernels of sweet corn in a solution of sulphate of copper (blue vitriol), the *chits* or parts containing the germs, were changed to a bright green, beautifully defining the limits of the phosphates of lime and magnesia contained in the corn, and indicating more than double the quantity than the Tuscarora variety contained when treated in the same way.

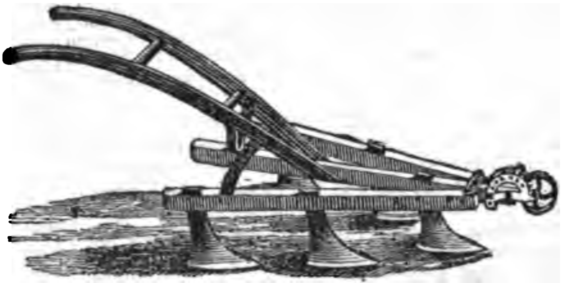
*Corn Oil.*—The horny or flinty portions of corn, Mr. B. remarked, when viewed in their sections under a good microscope, will be found to consist of a great number of six-sided cells filled with a fixed oil, which has been successfully employed for the purposes of illumination. He said that he had been informed from a credible source, that there is a distillery in the vicinity of Lake Ontario, where this oil is extracted, at the rate of sixteen gallons from one hundred bushels of corn, leaving the remaining portion of the corn more valuable and in better condition for distillation, than before the oil is extracted.

*Popping Corn.*—On this oil, added Mr. B., depends the *popping* qualities of corn. For when the kernels are heated to a temperature sufficiently high to decompose the oil, a sudden explosion takes place, and every cell is ruptured by the expansion of gaseous matters arising from the decomposition of the oil, and the grain is completely evoluted and folded back, or turned inside out. This property, continued he, is remarkably strong in the pop corn, and is common, in a greater or less degree, in all kinds of corn that abound in oil; but those varieties destitute of a horny covering, as the Tuscarora, and white flour corn, will not pop under any circumstances whatever.

*Recipe for making Corn Bread.*—The Committee appointed to select the best recipes for cooking and preparing Indian corn for food, obtained from Judson's Hotel, No. 61 Broadway, one of the best public houses in New York, the following directions for making corn bread, which they specially recommended to public attention:—

Take 1 quart of sour milk, add the beaten yolks of 8 eggs, and a handful of Indian meal, briskly stirring the mixture while adding the meal. To this add a little salæratus, 2 tablespoonfuls of melted butter, and stir in alternately the beaten white of the eggs, and a sufficient quantity of meal to form a smooth batter of the consistency of hasty pudding. Then quickly turn the mixture into well buttered tins, and bake in a brisk oven. The time required for baking will depend upon the size and thickness of the bread. For smaller parcels one-half or one-fourth of the above-named materials may be used.

## THE CULTIVATOR.



CULTIVATOR.—FIG. 48.

CULTIVATORS are of various kinds; we could enumerate at least twenty. The general form of them, however, is essentially the same, the greatest variations being in the teeth. Of these some are made of a triangular flat shape, like those represented in our cut; others like a small hoe blade or chisel, with sharp edges at the sides as well as at the front; others again with reverse teeth, which, when the point of one end is worn off, can be turned and used at the other end. In addition to these, coulter or harrow teeth are frequently added, and sometimes the two hind teeth are made like a plowshare, to throw the soil to or from the crops as desired, while the middle teeth stir the earth effectually, and cut up the weeds between the rows.

The cultivator should always be made to expand and contract at pleasure, so as to accommodate itself to different widths of space between the rows. One kind may expand from 2½ to 5 feet or more, another from 1½ to 3 feet. They are admirable implements to stir the ground and destroy the weeds, and for these purposes they will do the work of two or three plows. They are absolutely indispensable on the farm and plantation, and in the garden.

The celebrated Tull was the first who used cultivators to any extent. He contended that repeated stirrings of the earth were equivalent to manuring it; and in triumphant evidence of this, he pointed to a *poor* field where he had grown crops for thirteen years without manure, or summer fallowing, or plowing in a single green crop to fertilize it; and yet his last crops were the best. He even sowed wheat and other grain in drills or rows so wide apart as to be able to work the cultivator between them, and thus obtained on a poor soil 48 bushels per acre!

We have recently greatly improved our cultivators by strongly iron bracing the handles to the timbers, and lengthening and setting them more slanting. This gives the operator greater power over the implement, and makes it easier managing it. A wheel is set on to the end of the cultivator or not, as desired. This is useless in very uneven or rocky ground; but when the surface is tolerably smooth it is very desirable, as it makes the cultivator move easier and steadier, and with it the teeth can be exactly gauged, to work the ground any required depth.

The price varies from $5 to $8, according to the size and the number and kinds of teeth required in it.

*The Hand Cultivator.*—This is made entirely of iron, except the handle, and will expand from 10 to 18 inches. It is a very useful implement in the garden for clearing out the rows of beets, carrots, parsnips, and indeed everything sowed in drills, raking up beds, &c. It will do the work of four men at least. Price $3.

**LONG ISLAND HORTICULTURAL SOCIETY.**—This Society has been recently organized under highly favorable auspices, and holds its first semi-annual exhibition on the 11th and 12th of this month, commencing at 10, A. M., and closing at 10, P. M. There will doubtless be a rich and varied display of fruits and flowers, and we hope all who are interested in such shows will make it a point to attend, and exhibit as much as is in their power. Extra lines of stages and steamboats will ply between this city and Flushing during the days of exhibition, for the accommodation of those wishing to attend. Messrs. Wm. W. Valk, Robert B. Parsons, and G. Winter, of Flushing, are the committee of arrangements.

**SUFFOLK HOGS.**—Mr. William Stickney, of Boston, Mass., some time since sent us three of his delicious pork hams, made from the Suffolk breed of pigs, one of which we presented to the American Agricultural Association, and one to the Farmers' Club of the American Institute, nicely boiled and garnished. They were discussed both mentally and physically, and pronounced to be superior to anything of the kind ever tasted. The third ham was presented to the New York Lunatic

Asylum, the qualities of which are to be tested by the Board of Trustees, at their next monthly visitation, from whom we hope also to have a favorable account. The Asylum has a very superior stock of white hogs, to which the superintendent has lately introduced a fine Suffolk boar, procured from Mr. Stickney, with the view of still further improving them.

## THE ALPACA.—No. 1.

The following information relative to the nature, uses, and history of the alpaca, or Peruvian sheep, has principally been drawn by us from a gentleman who has travelled extensively in South America. In addition to considerable personal observation, he appears to be well read in the works of the early Spanish writers on the subject; and with a view to their ultimate introduction into the United States, he has kept a vigilant eye upon the more recent movements to domesticate them in Spain, France, and Great Britain.

By what we can gather from various sources, we are led to believe that there are at least three kinds of Peruvian sheep, namely, the *Guanaco* or Llama, the *Paco* or Alpaca, and the *Vicuña*, which agrees with the classification of Baron Cuvier, who regards the alpaca as a mere variety of the llama, and who considers the vicuña as the only animal in the group that deserves to be specially distinguished from the latter. This also agrees with the opinion of our informant, who cites Inca Garcilasso de la Vega, as saying, in the year 1611, that "the domestic animals of the Peruvians are of two kinds, the greater and the smaller, which they, as a common name, call *llama*, that is, cattle or sheep. The larger kind they call *huanacu-llama*, on account of the resemblance it bears to the wild animal known in Peru by the name of *huanacu*, from which it differs only in color; for the domestic llamas are to be met with as various in their colors as horses; but the wild llamas are uniformly of a chestnut-color. The larger kind bears a great similitude to a camel, except that it is deficient in the hump upon its back, and is not so large. The small kind they call *paco-llama*, which is only reared for its flesh and wool. The *vicuñas* are not very unlike goats in their appearance, except that they have no horns, are larger, and are of a leonine color, or more ruddy. They live in the highest mountains and groves, and particularly love those cold regions of solitude, which the Peruvians designate by the common name of *punas;* neither are they annoyed by frost and snow, but are rather created by them. They go in flocks, and run most swiftly; and such is their timidity, that at the sight of man, or wild beasts, they instantly hurry into inaccessible retreats, and thereby elude their pursuits. There were formerly a great number of these animals here, but they are now become much more rare, in consequence of the promiscuous license of hunting them. Their wool is very fine, resembling silk, or the fur of the beaver, and the natives deservedly hold it in high estimation; for, besides other properties, it is also said to resist heat and impart coolness to the wearer."

The order of animals to which the Peruvian sheep belong, offers to the eye of the naturalist but a very small anatomical difference of conformation from that containing the camel properly so called. Their feet are not, like those of the camel, entirely padded with an elastic sole, but their two toes are separated, each having strong, horny nails or hoofs, nearly resembling the talons of a bird, with a thick cushion or pad beneath. They are also dissimilar in the formation and arrangement of their teeth, having on each side of the upper jaw one canine tooth more than the camel, and want a second canine tooth in the lower jaw. According to Walton, their "incisors project full half an inch from the muzzle bone, so as to meet the pad fitted above, by which means, and with the aid of the tongue and cleft lip, they are not only enabled to draw together, and clip short grass upon the ground, but also, with their long necks, pointed muzzle and the oblique posture which the head can assume, to reach herbage growing on the ledges, and in the interstices of rocks seven feet high, as well as the tops of hedges and tall shrubs. Their teeth are, at the same time, so strong, and interlock in such a manner, that they easily crush and masticate vegetable substances too hard and tough for ordinary cattle." The absence of the hump, and of the callosity on the breast, also constitute striking points of difference between these animals and the camel. The llama, however, according to Molina, has a conformation resembling the camel's hump, being provided with an excess of nutritive matter, which lies in a thick bed of fat under the skin, and is absorbed as a compensation for an occasional want of food.

Some of the Peruvian sheep, as in the camels, have callosities on the knees of the fore legs, and, like them, kneel down in the same manner. Their stomachs and those of the camels, are, in some respects, similarly organized. That of the llama, according to Sir Everard Home, "has a portion of it, as it were, intended to resemble the reservoirs for water in the camel; but these have no depth, are only superficial cells, and have no muscular apparatus to close their mouths, and allow the solid food to pass into the fourth cavity, or truly digesting stomach, without going into these cells." But the stomachs of the Peruvian sheep certainly must have some kind of internal mechanism for retaining water, or secreting a liquid substance; for it has been remarked, along the flanks of some parts of the Andes, that they live far above any lakes or streams, and abstain from drink a great portion of the year; and further, it has been observed, that, in a state of domestication, they never manifest any desire to drink so long as they can obtain an abundance of succulent herbage.

From the peculiar organization of both the camel and the llama, we are led to infer that each is evidently fitted by nature for the endurance of great hardships and privations—"the one amidst the sands of the desert, under a burning sun—the other on the wastes of some of the loftiest mountains of the world, with a region of perpetual snow above them. The slight variations of their conformation, such as that of the foot, are modifications of nature which fit them for their respective localities. A habitation amongst the rocks would be mechanically impossible for the camel; whilst the burning plains would be as little suited to the llama."

## MR. RANDALL'S MERINO SHEEP.

Mr. Bingham, in his reply to my remarks in your Feb. No., does no injustice to my motives in instituting the comparison I did between the Rambouillet flock purchased by him of Mr. Collins, and that of Col. H. S. Randall of this place, though he finds a different reason for the liberty I took, than the one which actually influenced me. I did not in the least design to disparage the former. But Mr. B. cannot be unaware that comparisons *have been before* instituted between these flocks, that Col. R. invited Mr. Collins to show some of his sheep against an equal number of his own at Poughkeepsie, in 1844, and that a spirited correspondence took place on the subject in the public prints. I will do Mr. C. the justice to say, that his declining to show did not prove the inferiority of his sheep. Breeders are not *bound* to accept challenges of this kind. But I mention the fact to show that I was not so far wanting in courtesy, as to single out a particular flock to compare with Col. R.'s, without, as I supposed, finding my warrant for so doing in circumstances of public notoriety.

The weights heretofore published in the Agriculturist of Rambouillet fleeces referred to by Mr. B., have been invariably, I believe, of *unwashed* wool. This is a poor test, certainly, *if* any test at all. Wool ordinarily loses from one-third to one-half in washing, and it might be so dirty as to lose far more. There can, therefore, be no approach to certainty by any such criterion. Mr. B. will doubtless give us better data to judge by the present year.

Mr. B. says—"Doctor Emmons is doubtless a good geologist, and meant to make a fair trial of the samples, but how much does he know about wool and sheep?"

The editor of the American Quarterly Journal of Agriculture was bred a Connecticut farmer boy, and for one who has made agriculture a "secondary matter," is supposed in this State to be very familiar with the subject in all its branches. Else greatly did our Executive err in entrusting to his hands the volume on Agriculture in our magnificent "Natural History," one of the noblest monuments of New York greatness. Thus much to vindicate Doctor Emmons from the imputation of presumption in speaking of these matters. But, after all, a practical or theoretical knowledge of agriculture has very little to do with the simple experiments of testing with optical instruments and weights the diameter and strength of wool.

And now to Mr. B.'s inquiry, "How was the exact diameter of each specimen ascertained—by guess-work, by measurement, or by counting the number of fibres constituting the cord to be broken by weights."

The *strength* of fibre was ascertained by attaching minute weights to a single one until it broke. This was repeated a number of times, and the mean or average weight which fibres of each variety of wool would support, was given as the test of strength of that variety. The *diameter* of the fibres was ascertained by an optical instrument of great magnifying power, throwing (like the camera lucida) the image of the wool on a measured scale. This instrument, an elegant and expensive one, designed for this express purpose, is a PERFECT TEST of the superficial size of any minute object submitted to it. If Mr. B. desires any more minute account of this experiment, he will find it, with drawings of the wool (of Col. R.'s prize ram, Mr. Collins' Grandee, and various others) in the first vol. of the Amer. Quar. Jour. of Agriculture.

So far as *fineness* is concerned, Mr. B. will see that the evidence is conclusive in favor of Mr. R.'s prize ram, and against Grandee. On the subject of strength, Mr. B. suggests that the wool of Grandee might have "lost strength by age, repeated handling and pulling, and the wear and tear of being carried in some wallet in some man's pocket till half of its original strength was probably gone."

I have seen part of the specimen from which Doctor E. selected. He received it from an honorable source. It was understood by me to be recent wool, and had never been carried about in any man's pocket, and evidently had been submitted to no injurious treatment. Every serration showed the original, and it gives me pleasure to say, beautiful character of the wool.

The wool from the Merinos of "early importation" *was* "old." I doubt whether this would much affect its strength, if preserved with care. I have never known a wool or cloth buyer particular about the age of the article, provided it was in proper condition. I state the fact, however, let each one draw his own inference. The sheep referred to, were those imported by Seth Adams into Massachusetts, and were not, that I am aware, Rambouillets, as Mr. B. erroneously infers I meant to intimate. The specimens tested were given, I learn, by Mr. Adams to Sanford Howard, Esq., junior editor of the Cultivator.

As to the length of leg of the Rambouillets, I am still constrained to differ with Mr. B. The best judges in this country consider them decidedly inclining to this fault.

Mr. B. says I am largely the owner of American Merino sheep of a very similar character to Mr. Randall's. Is Mr. B. sure of this? Has he seen Mr. Randall's flock? He bases this supposition on the fact that Mr. R. has purchased sheep in Vermont which he has highly commended to the public. There is a family of Merinos in Vermont—the most common one claiming purity of blood—with heavy carcases and heavy medium quality and rather uneven fleeces, and to this family I have been led to suppose Mr. B.'s belong. Col. R. purchased some such, but soon got tired of them. He now breeds an entirely different quality of sheep, with far finer and evener fleeces, and is attempting, and apparently successfully, to preserve the weight of fleece of the Vermonter, with a fineness approaching to the Saxon. By far the best ram in my opinion now owned by him, was bred by himself, and he unites these qualities in a very remarkable manner.

I do not wish to be understood as classing all the Vermont Merinos with those above alluded to. Col. R. has some of the best ewes I ever saw from Vermont. But they differ most palpably from the common stamp which I have described.

As for the exhibition of fleeces proposed by Mr. B., I cannot say what Col. R.'s views would be. I am not authorized to speak for him in the premises.

*Cortland Village, April* 2, 1846. L.

P.S. Since writing the above I have been at the pains to see Col. R., to obtain his views in relation to the above proposed exhibition of fleeces. He says the exhibition of two or three fleeces would be no test of the quality of a *flock*, that he cannot reserve a large number of fleeces for comparison, but that he would willingly allow Mr. B. to compare 30 or 40 samples of his Rambouillet wool with an equal number from his (Mr. R.'s) flock, the weight of washed fleece being attached to each such sample, at the next N. Y. State Fair.

## GARDENING.—No. 4.

*Geographical Distribution of Vegetables.*—This branch of the study of horticulture points out the grand features of the immense extent which plants occupy, from the regions of perpetual snow to the bottom of the ocean, and to the interior of the globe. The *superior* limits of vegetation are known, but not the *inferior*; for everywhere in the bowels of the earth are germs which develope themselves when they find a space and nourishment suitable for vegetation.

The territorial limits to vegetation are determined in general by three different causes; by sandy deserts, which seeds cannot pass over either by means of winds or birds; by seas too vast for the seeds of plants to be drifted from one shore to the other; and by long and lofty chains of mountains. To these causes are to be attributed the fact, that similar climates and soils do not always produce similar plants. Thus, in some parts of North America, which resemble Europe in respect to soil, climate, and elevation, not a single European plant is to be found in a natural state. The potato, first found by the Spaniards on the Western continent, does not grow naturally in like situations on the Eastern. There is scarcely a single plant found in Africa that grows wild in South America, and the splendid dahlia of Mexico was never found upon the steppes of Asia.

*Physical Distribution of Vegetables.*—The natural circumstances affecting the distribution of plants, are temperature, elevation, moisture, soil, and light. Some plants belong to mountains, some to valleys, and others to plains. Every species of soil has vegetables peculiarly adapted to it. Some plants are confined to water, and some to moist regions, while others grow only in dry tracts, or on the surface of naked rocks. Some require the hottest climate, and some a climate that is temperate, while others will thrive only in the midst of frost and snow. In this way, nearly the whole surface of the earth is covered with vegetation, and plants are found even in the dark vaults of caverns, and in the beds of the sea. Some plants will flourish with a high degree of heat, for a short time, although it is followed by severe cold; others require only a moderate degree of warmth, longer continued, and are adapted to elevated regions. Many plants will flourish where trees will not, and some approach the region of perpetual snow. Those regions where no other vegetable will grow, are provided with the hardy lichen (capable of supporting men and animals), which is found beneath the snow in the depth of winter.

Temperature has the most obvious influence on vegetation. In this respect, not only the medium temperature of a country ought to be studied, but the temperature of different seasons of that country. In advancing north from the polar circle, the birch, which bears the severity of the cold best, dwindles in size, till at last it ceases to grow at 70°, the point where man gives up the cultivation of grain. North of this, shrubs, bushes, and herbaceous plants only are to be met with. Wild thyme, creeping willow, and brambles, cover the face of the rocks, and the arctic cloud-berry here assumes its most delicious flavor and perfume. Shrubs next disappear, and their place is supplied by the saxifrage, primrose, and the low-flowering herbs and grasses; then comes the lichen, which covers vast tracts of country, and beyond this we find only a naked, sterile soil, and perpetual snows. On the borders of the temperate zones the evergreens commence. The potato, cabbage, turnip, and similar garden vegetables, may be cultivated, and cranberries, whortleberries, and currants, are the only fruits. In the northern parts of these zones, the apple, pear, and fruits of the cold regions are produced in perfection; but in the southern parts these fruits often lose their finest flavor, and in some instances degenerate entirely, near the borders of the hot or torrid zone. Here the wine-grape, peach, almond, and apricot flourish; here we first meet with the olive and the fig, and in Europe, the orange and lemon, and as we proceed towards the tropics, we find the sugar-cane, coffee, and date. The orange, lemon, citron and fig, are here of the most delicious flavor, and still nearer to the equator the various species of palm characterize these regions. Some of the trees of the torrid zone attain a size, of which a native of northern countries can scarcely conceive. The mighty baobab, on the plains of the Senegal in Africa, is found with a trunk 50, 60, and even 70 feet in circumference, and one of the leaves of the fan-palm is often of sufficient size to cover ten or a dozen men.

Elevation, or the height of the soil above the level of the sea, affects climate much in the same manner as latitude; while, at the same time, it occasions a material difference in atmospheric pressure. This diminished pressure is one of the causes of the diminutive size of plants, grown in elevated regions. Experiments have been made to prove this, by causing seeds of barley to germinate in soil placed in vessels under different degrees of atmospheric pressure; and the result has been, that where the pressure was greatest, the vigor of the plant was greatest also. In ascending the mountains of the torrid zone, as the elevation varies, each section has its own distinct plants, and we find in succession the productions of every region from the equator to the poles.

Moisture, or mode of watering, natural to vegetables, is a circumstance which has a powerful influence on the facility with which plants grow in any given soil. The qualities of water, or the nature of the substances dissolved in it, must necessarily influence powerfully the possibility of certain plants growing in certain places. But the difference in this respect is much less than would be imagined, because the food of one species of plant differs very little from that of another. The most remarkable case is that of salt-marshes, in which a great many vegetables will not live, whilst a number of others thrive there better than anywhere else.

The soils suitable for the maintenance of the various kinds of vegetable productions may be brought under the five following heads: 1. Primitive soils. These affect vegetables mechanically, according to their different degrees of moveability or tenacity. In coarse, sandy surfaces, plants spring up easily, and are as easily blown about and destroyed. In fine, dry, sandy soils, plants, with very delicate roots, prosper; a similar earth, but moist in the growing season, is suited to bulbs. 2. Mixed or secondary soils include not only primitive earths, but vegetable matters; not only the medium through which perfect plants obtain their food, but that food itself. 3. Aquatic soils are such as are either wholly or partially inundated with water, and are fitted to produce such plants only as are called aquatic. 4. Earthy soils are such as emerge above the water and constitute the surface of the habitable globe, that is everywhere covered with vegetable productions. 5. Vegetable soils are such as are formed of vegetating or decayed plants themselves, to some of which the seeds of certain other plants are found to adhere, as being the only soil fitted to their germination and development.

Light is a body which has very considerable influence on the structure of vegetables, and some also on their habitation. The fungi can live and grow with little or no light, while green plants require light, though of different degrees of intensity. Some require shady places, and hence the vegetable inhabitants of caves, and the plants which grow in the shade of forests; others, and by far the greater number, require the direct action of the sun, and grow in exposed situations. L. T. TALBOT.

## LESSONS FROM EXPERIENCE.—No. 2.

*Moving heavy Rocks.*—Everybody knows, that is acquainted with digging heavy rocks, that a common iron bar is too short to afford lever power sufficient to break them up from their earthy beds; and the common heavy wooden lever will not bite so as to hold its grip, especially if the rock at the point is hard and smooth, and withal a little roundish. This trouble is easily prevented, and the process is as follows:—Take a good stick of timber of a length and size to your liking, and after giving it the proper shape, let your blacksmith take a wide bar of iron and weld on to one side of one end of it, and the whole width of the bar, a narrow piece of good steel; let him then turn it over on his anvil, and with a very sharp chisel, trim the end so as to leave the side on which the steel was laid, quite sharp. This sharp edge is then turned up a little, say about three-eighths of an inch, like a tooth-key. This end is then finished, all but the hardening part, which your blacksmith will please to remember after finishing the other part. The next thing is to cut off a piece of your bar some eight inches or more in length, and draw down the end not steeled quite thin. You may then have three or more holes punched, of a size that will receive some small bolts, of strength sufficient to hold this piece on one side of the end of your wooden lever. Three-eighths of an inch in diameter for these bolts will be about right. These bolts ought to have large heads on the under side, and be settled into the wood, so that your lever shall be smooth and fair; and the same precaution must be used on the upper side where they rivet down on the iron; and for this purpose it would be well to have the holes in the iron a little the largest on the upper side, so that the bolt would rivet down even with the surface. It is now to have a temper to the biting edge, then firmly fastened to your lever, and it is ready for use. You will remember, also, that such an instrument is worth preserving as much as your plow or harrow; you will therefore use it carefully, taking care of it when not in use; and one thus fitted and taken care of, will last for years, and will hang to a rock like a tooth-key to a rebellious grinder.

There is another small contrivance I have sometimes seen used in turning over heavy rocks with cattle, which works well. Instead of hooking your chain directly into the ring or staple of the yoke, you fasten it to the axle between two cart-wheels (the cart body being first taken off) and your cattle draw by the tongue attached to these wheels. It is to be remembered that the wheels are backed nearly astride of the rock, so that the chain pulls very different from what it does as usually fastened. This plan is of service only in turning over flattish rocks. If the rock is round or square, nothing would be gained; or if flat, if it stands nearly perpendicular, the result is the same.

*Shocking Corn.* — There is a practice getting much in fashion, in this vicinity, of shocking corn, which I like; and as it is very simple, any one can prove it to his own satisfaction. It is simply this,—take a smooth pole about ten feet long, and with an inch and a half auger bore two holes near one end, and put in two legs about three feet in length, standing astride like two of the legs of a saw-horse. These legs hold up one end of the pole, while the other rests on the ground. You may then bore with the same auger, or a smaller one will do as well, some five or six holes, beginning about three feet from these legs, at a foot apart or just as you find convenient. These last holes must be bored so that when a smooth rod is pushed through one, it lies horizontally, and it forms right angles with the pole through which it passes. The horizontal cross-rod may be about three feet long; and when made and placed in one of these holes, your instrument is done. Now for its use. Instead of binding the prostrate corn, you take it up in your arms and set it firmly against your pole in one of the angles formed by the cross-rod; and as there are four angles, this process is repeated until the shock is formed. The top is then turned down as usual, and bound with a corn-stalk or anything more convenient. Your three foot rod is now drawn out, and then the ten-foot pole, and leaves the shock erect without any other ceremony.

*Salt and Tar.*—As every farmer usually has these articles, it may be well for him to know their value. My experience has taught me the following lessons; and first, salt and tar will cure wens or tumors on cattle. I once had an ox that had a tumor on his neck, a few inches back of his jaw, and apparently attached to his windpipe. Sometimes he appeared to breathe with some difficulty; and the wen had increased to the size of a goose egg.

Various expedients were resorted to without success, until I had seen a wen cured on the human head by washing it repeatedly in brine. The process of washing, however, seemed too tedious; and so I concluded to mix salt and tar, and apply to it. It soon began to diminish, and after two or three applications it had nearly disappeared, when the ox was accidentally killed. The tumor was now a very small hard bunch, not larger than the end of your finger. Since that I had a young steer disfigured by warts, mostly about his nose and face, though he had not a few all about his body. I applied salt and tar to these. The first application healed, and the second completely cured them.

Query—What might be its effect in the disease called the "wolf?" As this disease is said to proceed from an ulcerated tooth, I should try to penetrate from the outside to the seat of the disease, and then apply salt and tar externally. By so doing I should expect to save the tooth, and still effect a cure.

J. H. Jenne.

*Peru, Me., April*, 1846.

## TREATMENT OF ORCHARDS.

You requested that I should give my mode of treatment to my Orchards for a few years past.

My practice is, every spring, to have the young shoots, decayed limbs, and such branches as interfere with each other, carefully removed; the rough bark and all the moss scraped off, and the main body of the tree rubbed with liquid soap. Once in five years I have manured heavily with coarse manure from the barn yard and dung heap, planted with potatoes, plowed deep and cultivated well, spading up round the trees where I could not plow. The next spring I plow again, sow with oats and seed down to clover. It is my purpose hereafter to feed off the oats and not let them ripen. A grain crop in an old orchard is of little value, and is a decided injury to the trees as well as to the fruit. I used to mow my orchard. This too I think is wrong. I now pasture with sheep and hogs. I put rings in the noses of my hogs to prevent their injuring the clover when young and tender; but when the clover becomes well set with good roots, I put the snouts of the hogs in good condition by pulling out their rings, and they root the ground completely over, especially about the roots of the trees. This I think is of great benefit. It keeps the ground loose and open. The hogs eat all the worms and unripe fruit; they destroy all insects with which they come in contact; and, should any be so lucky as to escape, the frost of winter will be sure to kill them. I ought to have said that I never allow an insect to build a nest upon a tree during the summer or spring. My fruit has improved very much since I have adopted this mode of treatment, especially my Newtown pippin; and this I can attribute to nothing else but to my mode of cultivation. I have an idea that guano is a good manure for fruit trees. I applied some last season to peach trees that were on the decay, and pretty much destroyed by the worm. I applied it about the first of June. I had the earth removed from the roots, and what worms could be found were destroyed. I then sprinkled a handful of guano about the roots and wet it well by sprinkling water over it. I then covered the guano with about a peck of pulverized charcoal to each tree, which I also wet thoroughly. The trees immediately changed their color, grew astonishingly, and ripened their fruit in great perfection.

Wm. Wickham Mills.

*Smithtown, L. I.*, 23 *March*, 1846.

## ANALYSES OF SWAMP MUCK.

Mr. T. N. Hollister, of Metuchin, N. J., has furnished us with the following analyses made by Dr. Chilton of this city. The bed is situated on a low level surface, with only a gradual slope from the surrounding lands, the soil of which is composed of a rich sandy loam. The subsoil upon which the muck appears to have been formed consists of clay, the muck varying in depth from one to twelve feet. The upper stratum, as per sample No. 1, is from one to six feet deep. The under stratum, as per sample No. 2, was produced where No. 1 was five feet deep, at a point twelve feet below the surface. The land where it is found is covered with maple, ash, and elm, which grow very rapidly; a small portion having been cleared of wood has become firm and dry, and is at present in fine sod, and contains an early growth of grass. The valuable properties of this muck have been tested by Mr. Hollister, who, by the way of experiment, spread it broadcast upon a part of his lawn, the present verdant appearance of which strongly contrasts with the part where no muck was applied, far exceeding in beauty a fine piece of grass land well manured early this spring. The bed of muck comprises about thirty acres.

### ANALYSIS OF NO. 1.

| | |
|---|---|
| Vegetable matter, about thirty per cent. of which is in the state of what is called soluble Geine or Humus, | 49.21 |
| Silica, | 14.00 |
| Alumina, | 17.04 |
| Magnesia and Lime, | 1.41 |
| Oxide of Iron, | 3.24 |
| Traces of Potash, Sulph. Acid, and Phosphoric Acid, | 2.10 |
| Water and loss, | 13.00 |
| | 100.00 |

### ANALYSIS OF NO. 2.

| | |
|---|---|
| Vegetable matter as in No. 1, | 18.46 |
| Silica, | 47.00 |
| Alumina, | 17.80 |
| Oxide of Iron, | 3.10 |
| Lime and Magnesia, | 0.43 |
| Traces of Sulph. Acid, Potash, and Phosphoric Acid, | 0.81 |
| Water and loss, | 12.40 |
| | 100.00 |

**Destruction of Sheep by Dogs.**—A correspondent writes us from Lebanon, Ohio, that upwards of $600 worth of sheep were destroyed within a few weeks in that township alone; and the loss in the county for one year was not less than $2,250! Notwithstanding this, and losses equally great in other parts of the State, the Legislature of Ohio, at its last session, refused to pass a law taxing dogs. There is no greater friend to the dog than ourselves, and we are fond of having them about us; but then we would take care that they did no injury to our neighbors, and we hold that every person should be liable for damage committed by those belonging to them.

## A REVIEW OF THE MARCH NO. OF THE AGRICULTURIST.—No. 2.

*Rules for the Application of Guano.*—Permit me to offer an amendment. Strike out all after the words, "*Before using guano,*" and insert, let the cultivators of American soil seriously inquire whether there is not a vast amount of native manures existing in the form of permanent minerals or earthy matters, to say nothing of that most valuable of all manures, deep plowing and green crops, besides the enormous neglect of animal manures constantly going to waste, particularly in cities, which it would be far more economical to use instead of importing a substitute. Mr. Editor, I cannot bear the name of "guano." It calls up sad reflections whenever I see or hear it. Is it possible that Young America, the land of fertility, "the garden of the world," has occasion to import manure? Then are we poor, indeed! as most new beginners are. Why, here in this good city of New York, there is a shipload of guano as good as ever sun shone upon on the islands of Africa or Peru, going to waste every day. If we are to import manure or bread stuffs, I am reminded by the story of the two brushmakers, that we had better "steal the brushes ready made." . . . . There is another thing. I lay it down as an axiom to my mind, which time will prove to my countrymen, that owing to our long dry summers, and want of irrigation, as a general fertilizer, guano will prove a decidedly bad speculation. Besides, is it good economy for us to import *phosphate of lime?* In the name of geology, I protest that we have a sufficient quantity in our own country. At all events, 20 per cent. of sand, clay, organic matter, and water, when added to the 26 to 52 per cent. of phosphate of lime, is entirely too much of a very common and superabundant article, to be so far-fetched and dear bought, for the sake of the 4 to 46 per cent. of ammoniacal salts, which your table shows the guano to contain. . . . . Most persons who ever read, know that ammonia is a fertilizer; and as the best of guano contains 46 per cent. of it, consequently it is a good manure. But is it any more necessary to go to Peru after ammonia than it is after phosphate of lime? Heavens! what a humbug! What is ammonia? Is it something that exists only on the sun-burnt "Islands of Peru, where it never rains?" Really it is a long time since we have had a shower of common sense. "The schoolmaster" is undoubtedly "abroad." What is ammonia? My book (I am "a book farmer") tells me it is—nitrogen, 82.35, hydrogen, 17.65, =100; and it is found in the most come-at-able form for the farmer's use, in urine and animal matter; particularly in bones, horns, hoofs, &c., that are thrown away to make room for "Guano." What immense quantities go daily down the sewers of New York, in the form of human urine alone! . . . . On account of the *mere transportation* (it is so portable an article), guano may be a valuable fertilizer for a conservatory or pocket garden; but my objections are against importing the raw material, or inducing farmers to look abroad for a supply of that which we have in abundance at home. . . . Being a home-made and a home-trade man, I vote for a tariff of public opinion upon the importation of manure, or any other of the *natural* products of the country. [For an admirable series of articles on "*Home-made Guano,*" see our last volume, pages 61, 87, and 115.]

*Chittenden Co., Vt., Ag. Society.*—All I have to say upon this article is, that every other society in the United States should "go and do likewise." It is the best show of common sense that I have ever noticed of any Agricultural Society.

*The Eagle Plow.*—Rather too much like an advertisement [you would not think so, my dear Reviewer, if you had to answer the hundred and one questions per week which we do, regarding these plows] to pass current among strangers Mr. Editor; but if the said strangers will accept my endorsement I will vouch for all you say of its good qualities. . . . . . By the by, I recollect that Solon Robinson has spoken highly of the plow, and he is safe authority. Pray, friend Solon, does it do well upon your prairie soil, where there is so much complaint about the plow clogging. . . . Your Prairie Farmer paper brags much of steel plows, but a friend of mine who lives out there, says they soon wear out. Is that so? If it is, why not harden the steel mould-board?

*Reduction of the British Tariff.*—Yes, and ours too, of course. . . . . *More Guano!* I have just seen a letter from some inland, out-of-the-world town in Illinois, that says, "in consequence of the prospect of being able soon to send our wheat to England free of duty, real estate is looking up." *Fudge!* But it is no use to say to a man that "looks up" to the British tariff, 75 miles inland from Chicago, that the total abolition of the British Corn-laws will have a tendency to reduce instead of increasing the price of his wheat. Time will tell.

*Liebig's Patent Process of Manufacturing Manure.*—Patent medicine and patent manure! Is this an improvement on Bommer? But first, how do you pronounce that name? Is it a "Lie," with an affix of "big," or is it "*Labah?*" [The German pronunciation is Lē-big.] Some of his opponents say that his writings give the signification of the English sound of his name. I hope not, for thousands place great dependence upon them. . . . This may be, and undoubtedly is, a very good formula of preparing an artificial substitute to restore fertility to land; but it never will be extensively used while millions of acres of forest and prairie can be had after the "old homestead" is worn out, upon which crops *can* be raised without any manure—our country is too large and too rich in soil to *improve.*

*A Southern Barn.*—Well, at least here is one good feature—there is a *manger* instead of a *rack.* But, begging your pardon, this is not a *barn* as Noah Webster understood it, but a *stable;* and so it is called where it belongs. The place for *fodder,* *i. e.* blades of maize, is upon scaffolds over the stalls, and the corn is in the crib "over yonder," and the door has to be opened whenever the horse is fed, and it opens outward, and is fastened by a rail leaned up against it; *I know* it wont suit this latitude. . . . Mr. Miller speaks of his plan as of brick or stone. He surely means logs. I never saw one of that family of other materials. If not of logs, he need not caution that the partition walls should go down to the floor—if of brick or stone, I "reckon" the wall would start from the ground. It is a very good way to build a new country log *stable*, but a poor plan for a civilized *barn*.

*Fencing*.—This is a fruitful theme. I am a disciple of yours, Mr. Editor, upon this subject. Let us see what says this other South Carolinian. Oh, ho! the South is with us too. Here are a hundred thousand miles in the first paragraph! A quarter of a million of dollars worth of land in the single State of South Carolina, devoted to a purpose worse than useless! It is a wicked waste of the bounties of nature. But, friend Coke, you state the quantity *entirely too small*. Half an acre to a mile is only half a rod in width, whereas, bushes, baulks, briars, and fence will average nearly double that width. "In most parts of Europe," you say, and so do I, and most other parts of the world too, "they have no fences." Comfort yourself that when this country is as old as China, we shall not be such intolerably big fools about fencing as we are now. But you nor I wont live to see our country enjoying such a blessing. A greater boon will it be when fences are unknown except as cattle enclosures or yards. Such a loss would be worth more than all the gold mines of Peru —*Guano* included. I give you the right hand of fellowship, and thank you for the perusal of your common sense articles. Although our views are at present treated with scorn by those on "t'other side of the fence," yet we rank some strong names upon our side. But add to the picture of your own State the millions of acres of rich prairie soil in the West, which the poor man is deprived from enjoying, because he cannot fence his crop against his neighbor's cattle. Piracy is an honest occupation, compared with turning unruly cattle out to range over a neighbor's roadside fences. "Pass a law to keep up stock," do you say? Why, none but a nation of uncivilized barbarians would ever let them run at large. . . . I am sorry that you did not give us your own name and place, for I am going down to your State next winter, and I should be proud to take so sensible a writer by the hand. [If Reviewer does go South we promise him a letter to Coke, and will ensure him a hearty reception at his hospitable mansion.]

*Agricultural Chemistry and Geology*.—From the reading of this article it actually appears as though it was intended for the use of schools. Now this may do very well to *amuse* some of our city youth, who will sometimes talk of "a place in the country;" but what country boy that has sense enough to comprehend anything about the science of those few questions and answers, has any idea of spending his life as a cultivator of the soil? No sir; he is looking forward to "a *place* in some store," or something "more *genteel*" than that of being the son of an American agriculturist.

*Sheep on the Prairies*.—What again? Them chaps out West are determined to "wool us." This is an old subject with an old writer, but he ever has something new. In common with many of his friends, I regret that "miserable health" has prevented him from keeping his ready pen in exercise for the gratification of the readers of "our paper." . . . And so it is not all gold that glitters upon the prairies? Sheep will starve upon frost-bitten dead grass in the fall, then? Glad to hear the truth spoken plainly. No doubt the Western prairies afford a fine country for raising sheep, but there are some difficulties there to encounter. . . . This article of friend Solon's no doubt contains some sound, practical advice to those who design to commence the business of wool-growing upon the Western prairies. But some of us "up our way," would like a word of explanation about Mr Cockrill's fine sheep. Does the wool deteriorate in quality or quantity in that latitude? Will Mr. R. tell us something more about this Southwestern flock? . . . Too much truth about them "ignorant, stupid, unfeeling, and indolent flock-masters," though it is expressed in rather strong language. No danger though of a "*libel suit*," as those who treat their flocks thus never read. Such suits are more commonly *coopered* up by some very envious *cultivators*, of a malicious, instead of ignorant disposition, towards a rival in business. . . . But is it a fact that people live upon the productive soil that you describe, in such habitations? Then truly they are indolent!

*The Yellows in Peach Trees*.—Here is "new doctrine" from an old book. But the translator, if I understand the signature, is a gentlemen who may be relied upon. And if the article from the New Duhamel, which is also reliable authority, is correct in its theory, as well as the opinion of Persicus, that this disease is not "*contagious*," then must we change our practice in the cultivation of this best of all fruits. . . . Let us hear more upon this very interesting subject. What is the experience of those who have cultivated this fruit upon the rich soil of the West and South? It strikes me if Dr. Philips, of Mississippi, Dr. Fanning, of Tennessee, and Mr. Robinson, of Indiana, would tell their experience in raising peaches, that it might be good evidence from three points, and different soils and climate, that might be useful when "doctors disagree." . . . I wish, friend Persicus, that one of your experience and information at home and abroad, would write over his own signature. *I* have cause for concealment, *you* have none.

*Southern Crops and Culture*.—It appears to me that I have seen Dr. Philips described as a small man, but he certainly has a large head, and handles a free pen. I have been told by one who has been "*thar*," that he also has a *large heart*. I certainly should like to visit him and many others of the Southern planters, and test that fact by testing their hospitality. . . . "Is that so," as you say in your second sentence, that what we conceive, here at the North, your Mississippi soil to be, inexhaustibly rich, will wear out in twenty years? Please explain this, Doctor. What is the soil? You intimate that cotton is not an exhausting crop. What, then, wears it out? For you say, "the subsoil possesses all the requisites of a good soil." That you need no mineral manures, such as lime, marl,

&c., and yet your land wears out in twenty years. What sort of farmers (I beg your pardon, I believe you don't call yourselves "farmers," but "planters") are ye? Is the word "rotation" only known as applicable to office, and not to crops? From your description, or rather the inference drawn from your partial description, I should suppose that with such a subsoil, and such an ability to turn under two green crops, peas and oats, for one taken off, that such a soil in such a climate, with such management, would never wear out. . . . But what is the "cow pea?" I find such an article in the American Farmer's Encyclopædia, but the description is very meagre. If you please, Doctor, give us a full description—color—size—yield—both of seed and vine—when sown—when harvested—and what good for, both pea and haulm. . . . And so you have done feeding your hogs on cotton seed! Well, it is time, if I am rightly informed of the manner of feeding them, which I am told is often done in the same state that they grew, with quantities of the lint adhering, and as I believe the seed itself has an outside hull around the oily kernel about as nutritious and digestible as dry hickory bark, it is no wonder that your hogs went to the buzzards instead of the smoke-house. . . . But let me inquire if you, and nearly every other large planter, do not own a *grist-mill;* and whether if you should grind your cotton seed with oats or peas, thus mixing fat, bone, and muscle together, it would not make good hog feed. Pray tell us something of the manner of using cotton seed for manure. How much *seed* grows upon an acre? We cannot understand what you mean by saying that "enough rye, oats, and peas, should be saved to plant the succeeding crop." This may be all plain English in your latitude, but you must recollect, Doctor, that our paper is a national one, and *I guess* some of us don't understand your Southern ways. If you only save the seed, pray, what becomes of the crop? And what kind of grass is that which follows oats and rye? I understand sweet potatoes, and should like to be one of your "poor, starved niggers," long enough to eat my "half-acre." . . . If all the *straw* of wheat were returned to the land, how much loss of potash would there be there? . . . Because you "lose too much time fencing," and you might have said because your rail fence in your climate is a very unreal estate, you will take to hedging. Well, that is better than nothing. But I wish you would read the article in the number of this paper now under review, upon fencing, and say if there is not more common sense in that writer's views than in a system which takes "too much time," all over the Union. Write again, Doctor. Don't fear that we shall tire. Descriptions of your country, and method of cultivating your crops, given with much more minuteness, will be interesting up here.

*A Drill Cultivator and Marker.*—What! another! Is it possible that the world is not yet full! Now these may be very good implements for cultivating strawberries, and if I knew the inventor had *not* patented them, I would recommend him as a generous and liberal-minded man for exhibiting and publishing them for the benefit of his horticultural brethren. [He has not patented them; says any one is welcome to their use.] But if I knew that he had taken a patent, I would denounce the whole concern as a very picayune way of advertising his wares for sale. The fact is, I am decidedly opposed to that spirit of narrow-mindedness among agriculturists, that prompts them to patent every little simple contrivance that they may chance to think of. One of this class of "small potatoes," a few years ago, patented an apple picker, that any common farmer can make for an expense of sixpence. Very useful, true, but too small for a patent. REVIEWER.

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We have so many communications crowded upon us, we regret to say that we cannot give the whole of our correspondent's agreeable article, but are compelled abruptly to bring it to a close..

## ROTATION OF CROPS.

The primary points in relation to the proper rotation of crops with the farmer, before he can with prudence attempt the cultivation of land to any extent with satisfactory results, should be a full knowledge of the climate and soil he is to occupy. By the term climate, is intended the nature of the weather in his particular district; and it is with regret that full and proper attention is rarely given by the farmer, to the nature of the climate under which he is to operate; as it is a well established fact, that the system best adapted to maritime situations is not so well adapted to those that are more inland; as also where a large portion of the country is covered with timber, there is a greater variation of the thermometer, between the extremes of heat and cold, than where the country is cleared of wood. In a woody country, the sun being partially excluded, the evaporation from the earth is not sufficient to dry the ground; consequently parts of the day in summer are hotter, and the winters are colder than in a country cleared and under cultivation, where a more equal temperature is obtained. By the term soil I would name clay, loam, peat and sand, which are the most popular with us, and neither so ungrateful as not to repay the husbandman, if he will only give proper attention to its culture. In fact, a favorable climate and soil are justly ranked as the "first riches of a country." Another important feature to be considered in relation to a system of rotation of crops, is a proximity to, or distance from, a market. Under the former circumstance, the various kinds of root crops, vegetables, hay, and all the more weighty articles, can be cultivated to advantage, while those more remote from a market have to confine themselves to grain, and the more valuable products.

Too much attention cannot be paid by the cultivator to the nature and qualities of the soil, by becoming familiar with its natural properties, improving its good qualities, and removing its defects, the importance of which is so self-evident to every intelligent farmer, that no general system of cultivation can be given unless all the circumstances as to the nature of the climate and soil be known; and the force of habit is so strong, that a farmer who has been a long time accustomed to a certain variety of climate and soil, by removing to another under different circumstances, will rarely meet with the same satisfactory results. Hence it cannot be presumed to establish one system as best adapted to all situations.

The atmosphere of Long Island from its maritime situation is strongly impregnated with salt, while in the northern and western portions of the State which are more inland, nitrogen prevails in the air, and different applications are required as fertilizers to the soil. For instance, the application of plaster (which has but little affinity with the marine atmosphere) to land on Long Island is attended with no good results, while in the interior, from its affinity with nitrogen, it attracts from the atmosphere, or absorbs and retains it until required by the plant, and consequently is highly beneficial. (*a*)

Owing to the early settlement of the island and a uniform course of cultivation, a large portion of the natural soil has long since been exhausted, and is now only made productive by the most liberal and large deposits. Consequently a proper rotation of crops requires a far more diligent study with the farmer than where the land has had less cultivation, as on the rich bottom lands of Ohio and the West, where wheat is reputed to have been sown for twenty successive years without any apparent exhaustion of the soil.

On Long Island, after a field of grass has been mowed for three years and pastured one or two years (according to the strength of the soil), it requires cultivation and manure. It is plowed in April, and from twenty to thirty cart loads of stable manure per acre are spread upon it, which costs seventy-five cents a load, or about the same quantity of the sweepings of the streets of the city of New York, which costs about fifty cents per load. The former is preferable after it is well harrowed in. Corn is planted upon the field early in May, which requires three courses of plowing and hoeing during the summer, and produces from fifty to seventy-five bushels of shelled corn per acre. The following year, during the month of March, the corn stumps are harrowed out, the field plowed, and two bushels of oats per acre are sown early in April. No manure being added for this crop—a portion of the field is generally reserved for potatoes, which are planted in drills, in which a good coating of manure is placed before the potatoes are dropped, and then covered with the plow. In about ten days, or a short time before the sprouts appear on the surface, a few green twigs of hickory or other wood, are twisted among the teeth of a harrow with which the ground is brushed lengthwise of the drills; the result of which is, the early weeds are destroyed and the ground partially levelled. They subsequently require two courses of plowing and hoeing before they appear in blossom, and the produce of potatoes is about two hundred bushels per acre. The product of oats is about fifty bushels per acre. As soon as practicable after the oats are harvested the field is again plowed, when the oats that have been left in the field vegetate very early and afford pasture until the early part of September. The field is again plowed, on which about thirty loads of stable manure per acre (costing as before stated seventy-five cents per load), are spread and well harrowed under, and two bushels of wheat and four quarts of Timothy seed per acre are sown, after which the ground is well harrowed and rolled. In the March following ten pounds of clover seed per acre are sown upon the field, which completes our system of rotation of crops. The field being now properly seeded for grass and prepared after the wheat is harvested for mowing the succeeding three years. The produce of wheat is about twenty-five bushels per acre.

For a few years past some of our farmers have adopted the system of sowing ten pounds of clover seed per acre, with, and at the same time of, sowing their oats, the growth of which affords good pasture after the oats are harvested; and the following year until after mowing time, when the clover is permitted to grow to be plowed under in September, when the usual quantity of manure is spread upon the field, and the wheat and grass seed sown. This plan has been attended with satisfactory results to those who have attempted it, the soil being in much better order for the wheat crop and laying down to grass, than when cultivated under the old system. It has another advantage of authorizing the farmer in mowing as many acres of his pasture ground as he pastures of the clover.

Below I give a statement or table of a low average of our different products per acre, the largest product ascertained, and the general average price of each.

| Variety of products. | Average crops bushels per acre. | Largest crops bushels per acre. | Average value. |
|---|---|---|---|
| Wheat, | 20 | 40 | 1.00 |
| Rye, | 15 | 35 | 62½ |
| Oats, | 30 | 80 | 35 |
| Corn, | 40 | 122 | 60 |
| Barley, | 20 | 35 | 70 |
| Buckwheat, | 20 | 40 | 50 |
| Timothy seed, | 4 | 8 | 4.00 |
| Flax, do. | 10 | 15 | 1.25 |
| Clover do. | 2 | 4 | 10 |
| Potatoes, | 100 | 400 | 37½ |
| Ruta Baga, | 400 | 700 | 25 |
| Mang'l Wurtz'l, | 700 | 1,100 | 25 |
| Carrots, | 600 | 1,150 | 25 |
| Hay, | 1 ton. | 3½ tons. | 10.00 |
| Flax, | 300 lbs. | | 10 |

The cultivation of rye and barley is limited, the former being occasionally sown on light or sandy soils in the place of wheat—the latter on rich or strong land instead of oats. Flax has also a small cultivation, and is sown on a portion of the oat field. Ruta baga, mangel wurtzels, and carrots are cultivated in the same field with corn.

Fixed rules can be laid down, practised, and profitably adopted for a rotation of crops, for certain varieties of climate and soil, or where there is a similarity, and where, too, the same manures can be obtained, which rules have been derived from previous experience. It would be a useless waste of time and labor to apply green manures to a soil a large portion of which is composed of vegetable matter—lime or marl, where the calcareous substances are in sufficient quantities—charcoal, where other substances capable of absorbing all the ammonia are present, and coming in contact with them, or any fertilizing or absorbing substances where there is a sufficient quantity of both for the luxuriant growth of the crops desired to be grown;—and the same will apply with equal truth in attempting to sow a particular crop, where the substances of which it is to be formed are not present, and cannot be obtained at a rate to warrant the expense.

*Oyster Bay, L. I., May 15th,* 1846. S. Y.

(*a*) May not this want of effect in gypsum be owing to the absence of vegetable matter in the soil of Long Island? At other points along our seacoast, plaster has been employed with beneficial results.

## CULTIVATION OF CORN.

UNDER the head of "Indian Corn for Seeding or Fodder," page 107, current Vol., you use the following language:

"If the land be rich and properly prepared for corn, it will be sure to come up and grow, however dry it may be, provided the seed be prepared by steeping it in guano, or saltpetre, water, or some other cheap solution. When corn is tolerably advanced in its growth, it completely shades the ground, and the drouth will have but little effect upon it. A larger crop may usually be grown in drills than when sown broadcast; and if these drills be two, or two and a half feet apart, we believe it will be found better than nearer, especially in a very dry season, as the cultivator can be often run between the rows, stirring the ground effectually, and neutralizing, in a measure, the effects of dry weather."

I copy your remarks, that the sowing of corn for provender may be again placed before your readers, assuring them that, in Mississippi, it will be as great an assistant as you speak of with you. And for the purpose of giving in your language, what I conceive to be the entire principle of planting and cultivating corn, which is, "properly" prepare land, plant it close to shade the land early, and cultivate with a cultivator. I cultivate only ordinary land in part; some of it is really poor, and my entire crop, whether little or much, it matters not, has (and does) averaged 30 bushels per acre. As to the number of acres I cultivate, or the quantity made, it is of no sort of business to know; sufficient is it that I have had corn, and fodder too, to spare for several years. But as there are many who think "a patch" can be better worked than a field, I will state, for their gratification, that I had 67 acres in one patch last year, and it was not all the corn either by many acres. A portion of this field was pronounced by a planter of 250 bales cotton, as yielding at the rate 50 bushels per acre. I use no manure to corn, but I plow deep, turn under corn or cotton stalks, and pea-vines; plant 4 feet by about 18 to 20 inches, single stalks in drills. I cultivate early, hoe when corn has 3 or 4 blades, or as early thereafter as the season will admit of, seldom using the hoe after. I thin out by hand, do not chop it up with the hoe. I use cultivator or double shovel plows, or the shovel plow, and I lay by, when or before the corn is in bunch. [tassel?]

I believe the South will bear close planting, and why not? Are your summers not as hot as ours? True, ours are much longer, but what of it? Is our corn not made in the same length of time? Corn, if planted in latitude 32° 30', in March, or 1st of April, will be safe from drouth by about the 1st of July—say 3 months—whereas corn planted near Lexington, at usual time, say about the 1st of May, is sometimes caught by frost in September, and ruined. No, sir; the difficulty is shallow plowing, and as deep cultivation, with the stand so scattering that the sun bakes the land.

Since writing thus far, I have an excellent address from the pen of Mr. C. M. Hammond, delivered before the Burke Co. Central Ag. Society, in Georgia, my friend, Gov. Hammond, of South Carolina, being kind enough to remember me. I also have "Effects of Drouth on Indian Corn, &c." "To the Planters and Farmers of South Carolina," by W. B. Seabrook. Both of these you will see, and I would ask a copy of at least the 2d paragraph on page 13, of Mr. Hammond's pamphlet.

In addition to my remarks, I would say that shallow covering is of much import. I have tried the various depths, from half an inch to six inches, by putting the seed in a hole at the various depths increasing half an inch, and I found the deep planted corn invariably rotted.

In addition to deep tilth, shallow culture, close planting, laying by early, and shallow covering, allow me to add, be certain to plant peas in the middle when you plow the last time, by scattering along the row, covering with cultivator. I sow about one bushel to three acres, my object being not only to grow peas, but to shade the land, and to grow vegetable matter to plow in. I may be in error, but I think shading the land acts in a two-fold capacity—preventing the earth getting so dry, and as an enricher. I have heard it said so frequently that I have become a believer without evidence, that, "covering the earth with lumber or bricks it will act as a fertilizer." If so, and that saltpetre is produced in caves, why should not the close shade of pea-vines act in a similar manner, if to a less extent? This thing I know, that pea-vines have benefitted me very greatly, whether by the covering, or as manure, or as both, it matters not. I have heard that some "fear the pea-vine would extract nourishment from corn, and might injure land;" but I think they, being of the same character as the clovers, take very largely of their nourishment from the air, and we thus return more to the land than we take, even after gathering the pea. I do not think as many peas are grown per acre, but as I make as many as I can feed, I deem the pea itself only as a secondary, and if it was restricted to the gathering for seed only I should continue.

To make these remarks more striking, I will state that the crop in this place under former overseers, when they were sometimes manured with cotton seed, never averaged over 20 bushels per acre, with always a scarcity, and sometimes to buy. Since two-horse plows, and this mode of cultivation, have been used here, I have gradually improved the corn crop to so great an extent, that 72 acres would have averaged last year over 40 bushels if a portion had not been grossly neglected. I am determined to make my corn crops average 50 bushels without hauling manure, and think the day is not far off.

The attention of Southern planters being drawn to corn culture, is my excuse for troubling you at such length. M. W. Philips.

*Edwards' Depôt, Miss., April,* 1846.

Butter.—A lady, writing us from her plantation in Louisiana, says: As for the sugar crop, that is the gentleman's vocation; mine is the garden, poultry, and dairy. Butter as yet we have only enough for family use. After repeatedly visiting the market of New Orleans, I am convinced that they know not what butter really is there. It is a miserable, white, washy stuff, sold there under this name, at an exorbitant price. I know our butter made on the plantation would cause theirs to blush. I hope to send a small sample to our State show in January. The musquitoes seem to be our greatest inconvenience. They annoy the young chickens greatly, and prevent our hens from sitting in warm weather.

## ENTRANCE GATE TO A VILLA.

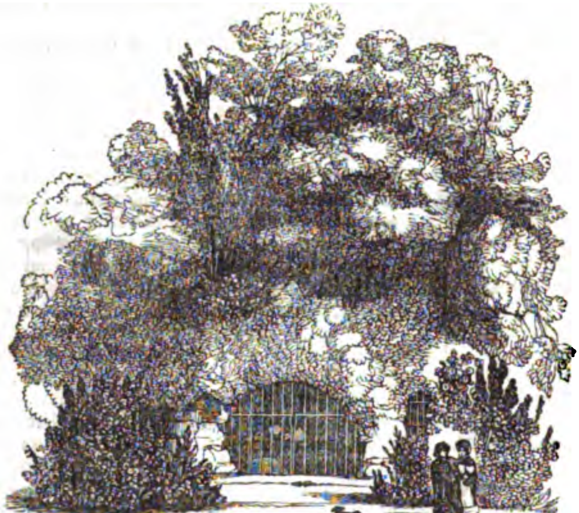


Fig. 50.

The entrance to a garden or villa may be produced in a few years, agreeably to the above representation, by planting a dense thicket of trees and shrubs, clipping the latter so as to form a rustic arch of almost any size or shape. The shrubs to be employed for this purpose may consist of the purging buckthorn, arbor vitæ, arborescent box, holly, and Cherokee rose (in the southern states), grape vine, or ivy.

The Best System of Farming.—When Cato was asked, What was the best system of farming? he thrice answered, "*bene pascere,*" which is to be translated "to graze well," or to procure food for cattle, having had in view the connection between the feeding of cattle and the production of manure.

## POLLED CATTLE.

I noticed in your April No., an inquiry about polled cattle. They are to be found in this vicinity. I have a cow six years old, from an imported cow, brought from London by one of our packet masters. The mother was a very fine cow, and cost in London a very high price. The one I have is of medium size, very gentle, and hardy and well proportioned. Color red, with some little white.

Henry Perkins, Esq., formerly of Salem, gave his attention exclusively to *polled* cattle, raising no others. A few years ago he gave up the business of farming, and disposed of his cattle, which have become scattered through the town. Capt. Chadwick, of this place, has a very fine cow of that breed, purchased of Mr. Perkins. She is unquestionably the best cow in this vicinity, with the exception of the imported Ayrshire of R. S. Griswold, Esq., which you have seen, and which took the first premium at the cattle show of the American Institute in October, 1844. Some think her superior to the imported cow of Mr. Griswold. At any rate she is a very valuable animal; large, well made, and gives milk abundantly, and of fine quality. Color, reddish brown. She had a heifer calf this spring, by Mr. Griswold's imported Ayrshire bull.

The other cattle of Mr. Perkins have mostly gone into the possession of farmers who pay little attention to their stock, and of course are not in a condition to show their true characters. The breed has been very much neglected here, as our farmers give more of their attention to working oxen than to cows.

The polled cattle here are not so much esteemed for oxen as those with horns. Henry M. Waite.

*Lime, Ct., April* 18, 1846.

Another Correspondent thus writes us upon this subject:—

Your correspondent, G. W. J., of Milton, N. C., writes to you about polled cattle, and you ask your readers for information as to where the best are to be procured.

In Great Britain there are now three breeds of polled cattle, which were no doubt originally derived from the wild cattle, of which I believe but one herd now remains pure and in a wild state in Yorkshire, though some 60 or 70 years since there were several parks stocked with them, both in the north of England and south of Scotland. Of the improved polled cattle, the Galloway, from the southwest of Scotland, rank first. These are of very fine symmetry, small in the bone, and of very great capability of quickly taking on fat. They are now all black, though formerly this was not the case. Next to these come the Angus-shire, from the northeast of Scotland, very similar to the Galloway, rather larger, but hardly so fine in their points. These are both more valued for making beeves than for dairy purposes. When grass-fattened, at three years old, they leave Scotland and go to within a moderate distance of London, and in the yards in Norfolk and the neighboring counties they are brought to the highest state of perfection for the London market. Whether in the half fat state in which they are driven south, or when fit for the London butcher, they command a price for their weight, above that given for any other cattle. Their being polled renders them far less liable to injury in the yards than those with horns; and they are considered unequalled in their capability of quickly taking on fat, while their beef is that which brings the highest price in London.

Your correspondent wants polled dairy cows. The English breed would better suit him. They are known as Suffolk duns. It is generally believed they are from one of the Scotch breeds, which having long been carried to that part of England for fattening, some of the Suffolk breeders had either adopted them or crossed their own breed with them, thus obtaining a polled stock, which are somewhat larger, and possess qualities as dairy stock, superior to the Scotch. They are chiefly roans, or light colors, though known under the general term of *duns*—and this at one time was a very common color in the Scotch breed, though by selection and care they are now almost entirely black. The wild cattle from which it is thought these three breeds have sprung, are white, with black ears and muzzles.

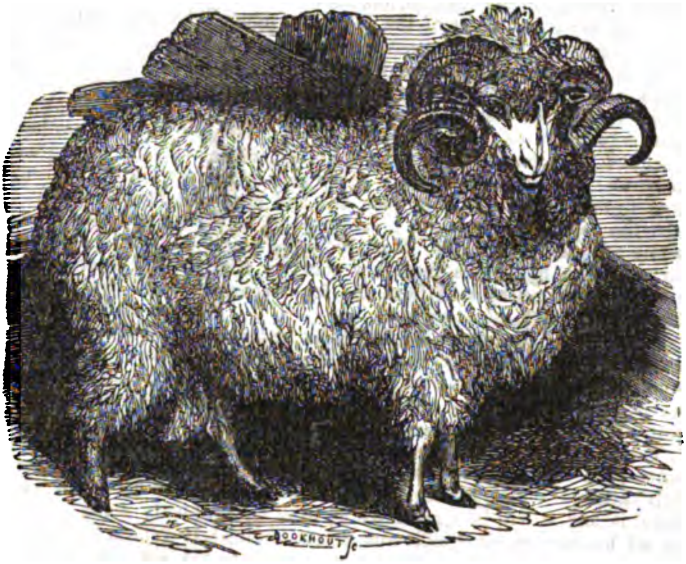
One of the finest oxen I ever saw in Great Britain, was a cross from a Galloway bull and West Highland cow, the latter a horned breed. He was polled, and exhibited at the great cattle show in London, when the crowned heads were there in 1815, and took the second prize, the first being given to a Devon ox, of enormous size, but wanting in fine points. I do not think any Suffolk cattle have ever been imported into this country. For dairy purposes I have no doubt they would be found superior to the Durham, now so much in fashion; and if this notice should lead some of your enlightened readers who may be in the habit of importing cattle, to make themselves acquainted with the valuable qualities of the Suffolk duns, I think they would be encouraged to make a trial of them, and that great success would attend their introduction here.

I have never met with superior polled cattle in this country, and as it was in regard to such that your correspondent inquired, I hope some of your numerous readers may be able to give information on this point. What I have stated may either in whole or in part enable you to fill some spare corner of your next number, as notes from

*April* 13, 1846 AN OLD GRAZIER.

## A MERINO BUCK.

MERINO sheep were first known in Africa. They were introduced into Spain and Italy in the early part of the first century; but whether they produced as fine fleeces then as now, and were otherwise as valuable, is a matter of great doubt. The first improver of them was Don Pedro II., king of Arragon, early in the 13th century; and after him, Cardinal Ximenes, prime minister of Spain. The French government also deserves great credit for its improvements of this valuable race of sheep, the royal flock at Rambouillet having steadily increased in its average weight of fleece since they were introduced there from Spain, and the quality of the fleece at the same time has been much improved, especially in its general evenness. The introduction of these sheep into America, and their breeding since, is so familiar to our readers, that we need not dwell upon the subject. For a valuable series of articles on the Merino in Spain, see our last volume.



MERINO BUCK.—FIG. 51.

## SHEARING SHEEP.

OF those who can shear a large number in a day, and perform it skilfully, there are very few; but nothing precise can be stated, as it depends entirely on the breed. If they are Saxons or Merinos, or grades of these breeds, it will be very safe to say, from twenty-five to forty, taking the average of a flock; the grown sheep fewer than of yearlings. In general terms, it may be said that he is a good workman who will accomplish about the largest number, cuts the wool with one clip of his shears, and not in twain, as one shearing too fast is apt to do, shears even and close without cutting the skin, and holds his sheep in those positions both easy to it and himself.

The following instructions may be followed, intended for the novice:—

Supposing that the floor of the shearing-house has previously been thoroughly cleaned, the pound containing the flock littered with straw—the shearer proceeds to bring his sheep upon the floor.

This he must avoid doing after a common method, which resembles, rather than anything else, the rough-and-tumble efforts of a dog dragging a woodchuck from his burrow—but after catching it, to throw his right arm around the body, grasping the brisket with his hand, then lift it, and with his left hand remove dirt or straw, if any adhere to the feet. If the sheep is filthy about the tail, or perchance any burs are attached to the wool, at the threshold of the door, let all be cut off by a suitable pair of shears at hand for such purposes only. Then he may place the sheep on that part of the floor assigned to him, resting on its rump, and himself in a posture, with one knee on a cushion, and the back of the animal resting against his left thigh. He grasps the shears about half-way from the point to the bow, resting his thumb along the blade, which affords him better command of the points. He may then commence cutting the wool at the brisket, and, proceeding downwards, all upon the sides of the belly to the extremity of the ribs, the external sides of both thighs to the edges of the flanks; then back to the brisket, and thence upwards, shearing the wool from the breast, front, and both sides of the neck—but not yet the back of it—and also the poll or fore part, and top of the head. Now the "jacket is opened" of the sheep, and its position, and that of the shearer, is changed, by being turned flat upon its side, one knee of the shearer resting on the cushion, and his other gently pressing the fore-quarter of the animal to prevent any struggling. He then resumes cutting upon the flank and rump, and thence onwards to the head. Thus one side is completed. The sheep is then turned on to the other side, in doing which great care is requisite to prevent the fleece from being torn, and the shearer acts as upon the other, which finishes. He must then take his sheep near to the door through which it is to pass out, and neatly trim the legs, and leave not a solitary lock anywhere as a harbor for ticks. It is absolutely necessary for him to remove from his stand to trim, otherwise the useless stuff from the legs becomes intermingled with the fleece wool.

In the use of the shears, let the blades be laid as flat to the skin as possible, not lower the points too much, nor cut more than from one to two inches at a clip, frequently not so much, depending on the part, and compactness of the wool.

The above instructions being designed for a beginner, we will suppose that this is his first and only attempt. Let his employer, when he is about it, and it will be a good while, have an eye on all his movements, kindly and carefully directing them. After the pupil is through his first effort, you will see him smoothing out the crinkles and aches from his back and hips—for thus the poor fellow will feel—and if the weather is warm—and of course it should be—wiping the dripping sweat from his brow. But be easy; let him blow awhile before he catches another sheep, for if you hurry him, long before night you will hear murmured from his lips, that "shearing is a back-breaking business—it's not what it is cracked up to be," &c., &c., indicating that he is already disgusted with it, and if so, adieu to his ever arriving at skilfulness. But if he has time afforded to straighten himself, and is petted with kind compliments "upon his unexpected well-doing—that he improves with each successive sheep—and that he will be sure to make a first-rate shearer," you will bring him under the yoke without his knowing its hardships. He will probably shear eight or ten the first day, and possibly a few more the next; at all events, guard him all the while, and see that he hurries not, or slights his work in any respect.

In this way, and none other, can we properly educate shearers to do their work with tact, and increased profit to the flock-master. This is but a transcript of the writer's course; and to show its good results, he has now in mind an instance, among several, where he instructed a raw one, and the following season his pupil sheared forty per day, and performed his task admirably.—*American Shepherd.*

## COTTON PLOWS.

I have not ascertained what will be the amount of cotton planted compared with the crop of 1845, but I presume not more, if as much. However, I do not think there will ever be made more cotton in this country than was made in the year 1844. There is more of a feeling now manifested for plentiful crops of provisions than heretofore; in fact, necessity will compel us to pursue that course, as our woodland ranges are fast failing, which will compel us to winter stock; heretofore we have been rid of this duty. This, in the end, will be a blessing instead of a misfortune; for where a people are dependent on their own resources, they are apt to provide more plentifully, than where woodland pastures have been their hopes.

To my knowledge, several sub-soil plows, as well as the northern turn-cast plows, have been introduced among us the present season. Those who have tried the former, are well satisfied of its utility and practicability. The only objection to it, is, that it is too heavy—requiring hard labor for two mules to draw it;—in fact two mules cannot work for any length of time at it. Could we procure one of a size or two less, that would work easy for two mules, I am of opinion they would become more in use. I am using six of the northern turn-cast plow, which answer an excellent purpose. The work they do is completely satisfactory. The objections to them heretofore at the south, particularly in new countries, were, they could not stand the roots in our new lands. This in a great measure depends upon two things. First, their manufacture; second, the care used in working with them. If they are properly made of good materials and faithfully put together, they can stand our new lands; for those I am now using, have been constantly at work since February, and have been plowed through lands of various quality and conditions; first and second year's clearings, and stiff, rough ground, very rooty, with numerous stumps in it. As yet, they are as sound and in as good order as the day I commenced with them—not even a point has given way. I am so much pleased with them in all respects, that I shall never be without them again so long as they can be procured on reasonable terms. In moulding or working out corn, they leave the ground in such beautiful order, that the work to be done with the hoe is much lightened and facilitated; it is the same with cotton after being thinned out to a stand. The draft is light on the animal, which is a very important consideration. H.

*Barbour County, Alabama.*

## SUPERIOR MODE OF CURING HAMS.

AGREEABLY to your request I herewith send you the process of curing the hams I sent you in March, which recently called forth the admiration of the American Agricultural Association, and the Farmer's Club, at New York.

I made a pickle of two quarts of salt, to which I added one ounce of summer savory, one ditto sweet marjoram, one ditto allspice, half ditto saltpetre, and one pound brown sugar; boiled the whole together, and applied the mixture boiling hot, to one hundred pounds of hams, and kept them in the pickle three or four weeks.

My process of smoking was not the most expensive, but may not be the less available on that account. I smoked the hams in a seed cask, with one head in, with a small hole for the smoke to pass out, hung my hams to the head, and used about a peck of mahogany sawdust for fuel, which I happened to have on hand for packing goods. I smoked them but one week. WM. STICKNEY.

*Boston, May 6th,* 1846.

## COLIC IN MULES.

I HAVE been a constant reader of your paper from its commencement, but have not yet seen an article on a subject of great importance to us Southerners, namely, the cause of so many of our mules and horses dying with the colic.

We are the most unfortunate people in the world as regards our stock. I lose three, and sometimes five mules every year by the colic; every day there is a mule brought to me from the field sick with the colic. Now I cannot see the reason of this, unless it is our mode of treating them. Our treatment is this. We plow them hard; give them as much water as they can drink when they are taken out to be fed; feed them in a lot in which there is a trough with plenty of corn in it: no stable for our mules whatever.

You would confer a favor if you or some of your correspondents would enlighten us on the subject, for it is a matter of importance that we should know how to prevent this disease. GASTON.

*Tallahassee, Florida.*

No treatment of mules or horses, that we are acquainted with, would be more sure to induce colic than such as is spoken of above by our correspondent; and if he wishes a preventive, he must change his system, for no medicine would be efficacious under it. To water a mule or horse when hot frequently produces colic; and to feed him hard, dry corn, will do the same. Oats are much better feed in every respect, and may be given dry without danger in any quantity, though it is better to grind, or at least soak them in water a few hours before feeding. Oats make tougher muscle and harder flesh to work on than corn. If corn is used, it ought to be ground with the cob, and mixed up with water, slightly salted, a day or so before being used. If it ferments previous to feeding, or if it can be boiled like mush or hasty pudding, so much the better, as it then goes much further, and is healthier for the animal. When mules are taken out to be fed, let them get a little cool before being allowed to drink; then give them a small quantity of water, say one or two quarts, and as they cool give them more, till they finally drink as much as they desire. If the water be very cold, a handful of hot wood-ashes should be thrown into the bucket before drinking—this is generally sure to prevent any ill effects. A gill of ashes should be given to each mule or horse once a week in their feed. Ashes keep the system open, and kill worms and bots in the intestines. It would be better to stable the mules, especially when feeding during very hot weather, in copious dewy nights, and in cold rainy weather. Their principal meal should be at night. During the long, hard working days of the season, they ought to have two hours rest at noon, and one to one and a half hour's rest in the shorter ones.

## DOMESTIC FISH-PONDS.—No. 1.

ON the continent of Europe, particularly in France, Germany, Sweden, and the Netherlands, the rearing of fish affords a regular source of profit to landed proprietors, and the establishment of artificial ponds, and the management of this species of game, are well understood. In most of the cities and larger towns, the stalls in the markets are furnished with two or more tubs of water, crowded with living fresh-water fish, in excellent condition, but painfully panting and struggling in their confinement, which are obtained from private fish-ponds, where they are regularly bred for the market, in a similar manner as our farmers' wives breed geese, ducks, and other fowls.

In most parts of the United States there are either natural ponds, or lakes, or waste places, capable of being converted into artificial ponds, which, if properly stocked and attended to, would greatly add to the luxuries and prosperity of the country, and would furnish the whole population, both in the country and in cities, with an increased supply, at all times, of wholesome and nutritious food. Few acts of our government, or of private individuals, would be more praiseworthy than to introduce into our waters, from Europe, a quantity of tench and carp, for the purpose of breeding, or to bring the celebrated white fish, muscalonge, Mackinaw trout, and other tribes of our great lakes, to the ponds or lakes nearer the sea-board, for the same object. On this point I shall speak more in detail hereafter.

A few years ago Dr. Gottlieb Boccius published a pamphlet on the management of fresh-water fish in Germany, with a view of making them a source of profit to landed proprietors. From this work, and several other sources, I have derived the information which follows in this, and will be continued in the succeeding numbers, with a hope that an attempt will be made to introduce this branch of rural economy into this country.

*Formation of the Ponds.*—As the first formation of fish-ponds is expensive if the proprietor has to excavate the ground, it is desirable to choose a natural hollow, to form an embankment where necessary, and to provide a feeder leading into it. If these ponds are not made entirely for profit, it will be well not to hide them from the view of the house, as sheets of water seen alternately when approaching a residence have a very elegant appearance. Their extent depends of course upon the quantity of fish proposed to be raised. If there is only one pond, it should not be of less extent than five or six acres; four times this area may be desirable, especially in marshy or wet soils, which often cannot be more advantageously employed; but it is better to construct a series of ponds, the first of three acres, the next four acres, and the largest five acres. For ornamental fish-ponds, as many as five should be formed, situated between two rising grounds and separated by embankments; three, however, is the usual number; the first of which should be slightly elevated, and so situated that it may receive the drainings of a village; or at any rate it should be near a farm, as all the refuse washings from such places supply food. The ponds should be separated by a distance of at least one hundred yards; more, if possible, as each can then have the refuse washings of the neighborhood. The ponds should be connected by water courses, protected by flood-gates of sufficient depth and descent to allow the whole of the water to pass off readily. If the supply of water is even and well regulated, the depth of each pond at the centre may vary from three to five feet; if the supply is not regular, the depth may be greater by about a foot. The sudden introduction of large quantities of fresh water is to be avoided, because its temperature is generally below that of the pond, and it also stirs up the mud. The sides of the pond should shelve gradually for about six yards; this will encourage the growth of grass, in which a variety of insects, &c., will harbor and supply food to the fish. Another advantage of shelving sides is that if the shallows are protected by stakes, the pond is not so easily poached. A third advantage is the protection it offers to the brood. as will be noticed hereafter. About the sluice or flood-gate the water must be deeper for the reception of the fish when the pond is emptied for cleaning, &c. A sheet of water may sometimes be divided into two by a middle embankment to be raised about two feet below the general surface of the water when the pond is full, so as to allow a boat to pass over it: thus one-half can be emptied at a time, and the fish transferred from one to the other at the time of cleaning.

Where there is only one pond it may be desirable to have several kinds of fish in it. Artificial bottoms must then be made, as different species of fish prefer different bottoms. Trout must have a gravelly bottom, and will not thrive without one; carp and tench are not so dependent on the nature of the soil, and are fond of weeds. Clay soils are not good, as they furnish no nutriment for the larvæ of insects, worms, &c., and consequently no food for the fish. Izaak Walton says: "It is observed that the best ponds to breed carps are those that be stony or sandy, and are warm and free from wind, and that are not deep, but have willow trees and grass on their sides, over which the water does sometimes flow:" and again, "such pools as be large and have most gravel, and shallows where fish may sport themselves, do afford fish of the finest taste; and note that in all pools it is best for fish to have some retiring place; as namely, hollow banks or shelves or roots of trees, to keep them from danger, and when they think fit, from the extreme heat of summer as also from the extremity of cold in winter. And note that if many trees be growing about your pond, the leaves thereof falling into the water, make it nauseous to the fish, and the fish to be so to the eater of it."

*New York, May 12th*, 1846. D'Jay Browne.

## RAMBOUILLET MERINOS.

Under this head, the article which we copy below, recently appeared in the Vermont Chronicle. Mr. D. C. Collins, the importer of these sheep, happening to be in town when we received the paper, we immediately called his attention to it. We subjoin his reply. It was written instantly after reading the said article, without the slightest premeditation, and in great haste, which will account for any little imperfections of style. We think that W. J., and all reasonable men, will be perfectly satisfied now, if they were not before, with the "unquestionable proof" here given, of the purity of blood of the sheep imported by Mr. Collins, from the Rambouillet flock. To those who know Mr. Collins, his word is quite sufficient, without giving any other proof, as he abundantly has here, to verify his assertions.

As to the "unmeasured language" in which these sheep were spoken of by us in the Agriculturist, about three years since, we can only say, that *every word of it is true;* and if W. J., or any candid person will give themselves the trouble to visit the flock now with Mr. Bingham, they will find it so. We have seen hundreds of the early importations of Merinos from Spain, and have been familiar with sheep and wool and its manufacture for upwards of thirty years, and we profess to know something of these matters; we knew also when we wrote, that what we should say respecting the Rambouillets would excite the envy and jealousy of some flock-masters in this country, and we were particularly careful at the time to tell even less than the truth warranted us in saying in their behalf.

"Messrs. Bishop and Tracy:—There appeared in your paper of the 18th inst., an article under the Agricultural head, said to be extracted from the American Agriculturist, communicated by a second person, and apparently vouched for by a third, obviously written in praise of a flock of sheep formerly owned by Mr. Collins, near Hartford, in Connecticut, and stated to be since sold to a Mr. Bingham, of Williston, Vermont, purporting to be from the Rambouillet flock in France.

"Some two or three years since I saw an article praising these sheep in unmeasured language, I think in the Agriculturist, published in the city of New York; and from the high terms in which they were recommended, I was induced to make some inquiries of one or two gentlemen residing in Hartford, respecting them; but to my surprise I learned that they knew little or nothing about them. I have since inquired of several well informed men connected with the wool-growing business, but with no better success. They had seen them noticed and recommended in the papers, but that appeared to be the extent of their information.

"In 1786 Louis the Sixteenth made a special application to the King of Spain, to allow him to obtain a flock of Merinos. This was granted, and the sheep were driven into France and put on the royal estate of Rambouillet, from which they took their name. In the Revolution those sheep were taken under the patronage of the Convention and subsequent governments. In 1801, Chancellor Livingston, then minister in France, obtained four from that flock, and sent them to his estate in New York, and the Marquis Lafayette, on his return to France from the dungeons of Olmutz, obtained some and put on his estate of Lagrange. Those sheep were undoubtedly well chosen, and much care has been taken of the flock since: but does it follow that the sheep of Mr. Collins were of that flock? In every instance in which high bred Merinos or Saxonies have been imported into this country, they have been accompanied with a certificate from some municipal officer or notary public, proving the breed of the sheep, which certificate was verified by an American Consul, under his official seal and signature. Now, although I have several times seen Mr. Collins' sheep denominated Rambouillet, I have nowhere seen any such proof of their paternity. If they are really Rambouillet, the fact is easily susceptible of unquestionable proof. I must, therefore, take the liberty of asking N. L. N., who appears to have obtained the insertion of the article in your paper, the following questions, which, if satisfactorily answered, will place the matter beyond all doubt: 1st, In what year were those sheep purchased in France? 2d, At what port in France were those sheep shipped? 3d, On board of what vessel were they shipped, naming the vessel and the captain? 4th, Were they accompanied with any certificate of any public functionary in France, and was that certificate verified by the American Consul? 5th, Into what port of the United States were they imported, and in what month and year?

"It must be obvious to every sensible and reflecting man, that any individual who would take the trouble and go to the expense of obtaining Rambouillet sheep from France, would be especially careful to obtain the necessary certificates, proving the purity of their blood. If these questions are not satisfactorily answered, the public have a right to conclude, that Rambouillet is a '*nomme de guerre*,' a borrowed name, in order to assist the sale of the flock, and may be placed side by side with the Paular, the Guadaloupes, and the Infantadas, under which name several flocks have found a much more current sale than they possibly could have done from their own intrinsic merit. Apropos of the Infantado flock: the Duke del Infantado joined the patriot side in the Peninsula contest, and his flock was not confiscated or sold, nor did any part of it ever come to this country. W J."

At New York, April 7th, 1846, I, D. C. Collins, of Hartford, Conn., hereby certify, that in the autumn of the year 1839 (I think in the month of October), I personally visited the ancient Park of Rambouillet, in France, and there examined the celebrated Merino flock of rams and ewes, known as the "*Royal Rambouillet* breeding flock," the blood of which was originally in the latter part of the previous century imported from the choicest *Trashumantes*, or Travelling flocks of Old Spain, of the sort known in Spain as *Leonese*. I took personally from several of the said ewes and rams, samples of their wool, and took down a memorandum of the numbers or figures branded on the horns of the said rams, and by which they were designated, among which rams, so examined, sampled, and noted by me, was the superb ram numbered and branded 349, being the identical ram subsequently owned by me, and extensively known in the United States by the name of Grandee, the sire of the ram branded with a figure 3, sold by me with the flock to Rev. Luther G. Bingham, of Williston, Chittenden County, Vermont. In the spring of the succeeding year, in the month of May, 1840, I purchased at the public sale at Rambouillet, the said ram Grandee, No, 349 (I now still have his *head and horns* preserved); also, at same time and place, another very fine and beautiful, but younger ram, and twenty of the most beautiful, and valuable, and desirable ewes which could be selected from said Royal Rambouillet flock. The business part of the transaction was done mainly with M. Bourgeois, the superintendant of the said Royal flock, and as I understand son of the former M. Bourgeois, now deceased, so long known as having personal charge of said flock, and who is, I understand, still in charge there.

My agent, and temporary shepherd, in bidding or agreeing for price, and disbursing my funds in payment of said sheep, at Rambouillet, provisioning and watching over said flock on the voyage of importation from Europe to the United States, was Monsieur *C. P. Bordenave*, since and lately a resident of the city of New York, where he has been favorably known as a teacher and translator of the French language, and (as I was informed) associated with Henry C. Deming, Esq., at New York, in the translation of several popular French publications.

The flock was embarked from the port of Havre, in France, in the autumn of the year 1840, on board the ship Illinois, Capt. Eveleig. Messrs. Boyd & Hincken, of this city, were part owners and agents for said ship, and with whom I made bargain and arrangements for passage of said sheep, before the ship sailed from this country for Europe.

The flock was landed at New York in the autumn of that year (1840), I think in the month of October, without the loss of a single sheep. Young Mr. Olmsted (then a lad of twelve or fifteen years), second son of John Olmsted, Esq., of Hartford, Conn., was a passenger in the said ship Illinois, in care of M. Bordenave, with the said flock from France, to the United States, and can, if needed by Mr. Bingham, verify the fact of the said importation, as herein stated, Whether M. Bordenave is *still* in this country, or whether he has lately returned to France, I am not aware. If he is still in the United States he can verify and make oath to all the foregoing.

The said *flock*, with the exception of some of the young lambs, was never parted with, or sold by me, till late last fall, when I sold the entire remaining flock, for a valuable and satisfactory consideration, to Rev. Luther G. Bingham, of Williston, Chittenden County, State of Vermont, since which time I have had no pecuniary interest whatever in the sheep. The youngest imported buck, together with several of the young rams, and one or two of the imported ewes, were killed by dogs in my yard at Hartford, in the winter of 1841–2. Most of the original ewes imported by me were rather old, as I chose to select such in preference to young ewes; of course most of the old ewes are now dead and gone. Some of the said old ewes bred but once or twice after reaching this country. That was the case with the dam of Mr. Bingham's present choice stock buck, branded on the horn with the figure 3. I raised but that one ram lamb from her before she died. She was one of the best pure Merino ewes I ever saw—distinguished for fineness and *softness*, as well as great closeness and *weight* of fleece, very *yolky*, but *not* at all *gummy*. Superior judges of sheep and wool expressed the opinion that in her *prime*, in her younger and best days, she must have cut a fleece of probably *seven* pounds of washed wool. She was a sheep with a large, thick-looking, muffled neck, with some considerable loose skin on the body, with decidedly SHORT legs, *well woolled* all over, legs included. Until I sold the flock to Mr. Bingham last fall, I never sold any ewes, old or young, to *any* person, save one or two old ones which had long *ceased breeding*, and went to the butcher not known as being from my flock.

I never took the trouble, nor did I deem it needful, to procure any certificate of consuls, as to the *genuineness* or *authenticity* of my imported Merino flock. *Such things* are, of course, *easily and cheaply* obtained by *those* who *need*, or feel the need of them.

There is *no shadow of doubt* as to the *authenticity* or *purity* of the *breeding* of the flock, since it arrived in this country from Europe, up to the time when I disposed of it, as herein stated, to Rev. Mr. Bingham. Further this deponent saith not at present, though he has no reasonable doubt that the *purity* of the *breeding* of said flock will hereafter be *carefully watched over* by the present owner, whose character and qualifications, I believe, entitle him to great confidence.

Mr. *Burnham*, Melancthon Hudson's farmer, at Oakland (or Hockavum Bridge), near Hartford, Conn., came to New York, in my employment, and took the said imported Merino flock from the ship Illinois, in the fall of 1840, and delivered the sheep at my yard at Hartford. DAVID C. COLLINS.

*Witness, A. Longett.*

—

W. J. asserts in his article above, that no part of the flock of the Duke del Infantado ever came to this country—meaning the United States. To show that he is entirely mistaken in this matter, we addressed Mr. Charles Henry Hall, of Harlem, N. Y., for a corroboration in writing of what he had frequently told us in conversation. We subjoin his reply:—

The Duke del Infantado, it is true, joined the patriot cause, and went ambassador to England from the Cortes, at the time Ferdinand was detained in France, and returned to Cadiz when that city was in a state of siege. There I was introduced to the Duke, by the United States ambassador, Mr. Ewing. His flocks, he informed me, were in positions of safety from the contending armies, in various parts of Spain—some of them in Andalusia. The result of my interview was, a purchase from the Duke, of a flock of 400 sheep, by myself and associates, which were shipped to Virginia, consigned to Messrs. Brown & Rives, at Richmond. Subsequently there were obtained from the Duke 2,000 more sheep, having his mark (a brand of Y upon the side of the face of the sheep), which were shipped to New York and Philadelphia, for account of Commodore Charles Stewart, Consul Richard S. Hackley, myself, and others. Of one of the cargoes, Chancellor Livingston had a large lot of my Infantado sheep, which he purchased of my agent, Mr. Henry Ward; and I think in some of his writings he speaks of the high estimation in which he held the flock of the above-named Duke. The invoices of these sheep, and the result of the shipments, I have among my papers, and will select them out hereafter for the inspection of Mr. Allen.

CHAS. HENRY HALL.

## AGRICULTURAL CHEMISTRY AND GEOLOGY.—No 6.

*Q.* Of what substances do the different kinds of grain usually consist?

*A.* They consist chiefly of three substances, starch, gluten, and oil or fat.

*Q.* What proportion of each of these usually exists in wheat?

*A.* 100 lbs. of wheat flour contain about 50 lbs. of starch, 10 lbs. of gluten, and 2 or 3 lbs. of oil.

*Q.* In what proportion do they exist in oats?

*A.* 100 lbs. of oats contain about 60 lbs. of starch, 18 lbs. of gluten, and 6 lbs. of oil.

*Q.* What do potatoes and turnips principally consist of?

*A.* Their principal constituent is water.

*Q.* How much water is contained in 100 lbs. of potatoes?

*A.* 100 lbs. of potatoes contain about 75 lbs. of water.

*Q.* How much water is contained in 100 lbs. of turnips?

*A.* 100 lbs. of turnips contain about 80 lbs. of water.

*Q.* What quantity of starch do potatoes contain?

*A.* 100 lbs. of potatoes contain from 15 to 20 lbs of starch.

*Q.* Are these proportions of starch, gluten, &c., always the same in the same grain or root?

*A.* No. Some varieties of wheat contain more gluten than others, some varieties of oats more oil than others, and some varieties of potatoes more starch than others.

*Q.* Have the soil and climate any influence upon the proportion of these ingredients?

*A.* Yes; the wheat of warm climates is said to contain more gluten, and the potatoes and barley grown upon light or well drained land, more starch.

*Q.* When grain or potatoes are burned, do they leave any inorganic matter or ash?

*A.* Yes, they all leave a small quantity of ash when burned.

*Q.* Of what does this ash consist?

*A.* It consists of the phosphates of potash, soda, lime and magnesia, of common salt, and other saline substances.—*Professor Johnston.*

## SUNDRY ITEMS.

*Chinese Tree Berries poisonous to Pigs.*—I have just had the misfortune to lose five of my finest Berkshire pigs in twelve hours, by eating the berries of the Chinese trees (*a*), which are now dropping. They were two months old at the time, and had not been where the berries grew, before the day they died.

*Orchard.*—I have just finished pruning my orchard, which contains 40 kinds of the best northern and southern apples; 30 kinds of peaches; 12 kinds of pears; 6 kinds of plums; 4 kinds of cherries; 2 kinds of apricots; 2 kinds of nectarines; and 2 kinds of grapes.

*Corn Bread.*—I send you a receipt for making corn bread, such as is used at every meal at my house. I have stopped at nearly all the fashionable hotels in the Union, and never have found anything that has equalled it. It should be tried by every one who wishes to have a superior bread.

Take one egg well beaten, a half pint of thick cream, Indian meal sufficient to form a thick batter, a small quantity of salt; add half a teaspoonful of salæratus, dissolved in a small quantity of water; after mixing thoroughly, put it into the pans or oven, and bake immediately. E. J. Capell.

*Centreville, Miss., April* 15, 1846.

(*a*) These trees we presume are what are commonly called the "Pride of China" at the South, and "Azedarach" throughout Europe.

## OYSTER-SHELL LIME A PREVENTIVE OF THE POTATO DISEASE.

We have frequently recommended the application of lime to the potato crop, as a preventive of the disease so destructive at present to this valuable root. A correspondent sends us the following report at a meeting of the Brooklyn Institute, from the Star, of its application to a crop of potatoes, raised by Mr. Charles Nadansky, of North Hempsted, Long Island, which is so conclusive of the good effect of shell lime, that we give it in full for the benefit of our readers, trusting that they will profit from the example of an intelligent practical farmer.

That the piece of land planted is about one acre; and was planted in the spring of 1845; that all of it except about one fifth was manured at the time of planting in the usual way, with farm yard dung in the hills; that a strip in the middle of the piece, being about a fifth of the whole, was left without dung, and in place thereof about one pint of slacked shell lime was used to each hill; that the yield of the whole was about *one hundred bushels;* that the produce of those grown on lime was estimated at *one third* less than those grown on dunged land, but of a quality very superior, being all sound, very regular as to size, fair, without a diseased or decayed tuber in them at the time of digging up, whereas those grown on the manured part were very irregular as to size, of an ill shape, watery, and had a large portion of decayed tubers among them at the time they were dug up, and the damage was such as to excite much apprehension that they would not keep, and, in consequence, 70 bushels were sold.

And further, that early in the fall of 1845, four bushels from the limed, and *twenty-one and a half* from the dunged land, were each made quite dry, by being spread and turned about on the barn floor; that in this process of drying, there was among the dunged parcel a large portion which had become rotten and worthless, but of those from lime not one was discovered unsound; that when thus dried, they were placed in piles, and as they were thus placed, they were sprinkled (so as to whiten every tuber) with air slacked lime, and covered, first with rye straw, and then with earth in the usual way; that in April, 1846, the piles or heaps were opened, and from the 4 bushels of those grown on lime, 21 tubers only were found to be unsound, while from the 21½ bushels from the manured land nearly 2 pecks were in a decayed state; and, further, that at the time the above named were piled and buried, one barrel of the dunged crop was set away in a coal cellar, and without being sprinkled with lime, and in the spring, that is to say, in the month of April, upon examination there were found to be about the same proportion of decayed tubers as in the other part of the same crop.

## AGRICULTURAL PUBLICATIONS.

Since January I have received the Agriculturist for 1846, regularly. I am so much pleased with it that I feel disposed to be one among its patrons. Its contents are so much of the common every day order of things, that they may be deemed not only practical, but very useful and instructive. Such should be the works devoted to agriculture; as our callings are adapted to the most useful, practical and the earliest method to suit the purposes we are engaged. Anything mysterious, complicated, or extravagant, does not suit the farmers of our country. We are yet in our infancy in our occupations; as such, we stand in need of plain instruction. Step by step we must learn, and not be tutored too rapidly, for fear of too sudden advancement, not knowing the grounds we have passed over. Plain and useful instruction we need, so that when we read we can understand; and if we endeavor to carry the lessons into the field, let it be such as can be profitably bestowed. When agricultural works are aiming at the mysterious, and remote sciences, they at once lose their usefulness to the common planter; for in our day and time, we are neither prepared nor competent to carry them into execution; it is "as pearls cast before swine." The instruction we most need, is the most easy and ready modes of carrying out our practical duties to the most advantage and profit. The mechanic arts are of value to us; the time and manner of procuring green timber for seasoning for use; the kinds best adapted for certain purposes; those most durable and best to be applied for wet or dry places; all such lessons are useful, as they are constantly needed. The stock department, and hints on domestic and rural economy, are highly necessary.

*Eufaula, Ala.* Jno. H. Dent.

## MR. TUDOR'S GARDEN.

This superb garden is at Nahant, a rough, rocky, narrow peninsula, three or four miles long, jutting boldly into the sea, from the low sandy beach of Lynn, seven miles northeast of Boston. Being open to every ocean breeze, and with superior bathing and fishing ground, it is a delightful summer retreat for the citizens of the adjacent towns, and has long been quite a fashionable watering place for the public at large. Several spacious hotels crown the dark cliffs of the south end of Nahant, while picturesque cottages are scattered here and there, occasionally varied by groups of farm buildings, pleasing for their tidiness, or the reverse, according to the means and tastes of their several occupants. The surface of this peninsula is composed mostly of rocks, or hard, dry gravel; profitable gardening, therefore, much less farming, is nearly out of the question. In addition to the want of a good soil, the night and mornings are cold; and in the storms on the coast, the wind sweeps across the peninsula with great violence, loading the air and saturating the earth with salt spray from the sea. Under these circumstances, few shrubs and trees, and these of a peculiar kind only, can be reared here without strong, high shelter, while growing vegetables and grain are precarious. But there are so many persons at present residing at Nahant during the summer season, that gardens have become quite a desideratum.

Various schemes have been devised for a more successful growth of fruits and vegetables here, but nothing has been found to answer so well as ample protection. Among those who have adopted this most extensively and successfully, is Mr. Frederic Tudor. His garden comprises about four acres, and is filled with nearly every delicacy of flower, fruit, and vegetable, which it is possible to grow in the climate of Nahant. His method of protection consists of a series of fences. The outside line is 16 feet high, made of large cedar posts, deeply sunk and braced in the ground, connecting with joists 3 by 5 inches, to which slats or pickets, 3 inches wide and one inch thick, of the same length as the posts, are nailed in an upright position 2 inches apart. To this fence espaliers of the hardiest kinds of fruit trees are trained. A second fence of the same fashion and materials, but not quite so high, is run round the garden a short distance from the first. Then comes a third fence, with others to the number of nearly one hundred, short and long, running off at different angles from the first line, making a complete labyrinth of the garden. To these shorter fences are trained apricots, nectarines, peaches, grapes, and other delicate fruit. In another part of the garden is a peachery by itself, of 300 trees, grown by the sides of short slatted fences, a few feet apart, protected in front by a thick hedge of dwarf willow. One would be surprised to find what a difference these fences make between the atmosphere of the garden and that surrounding it. Although it was in the month of July when we visited the garden, without, the air was chilly and blustering, within, bland and warm. Several kinds of fruits were in season, all of which we tasted, and found them as delicious as those grown in a much milder climate.

We found several other things here well worthy of record: for example, Mr. Tudor's contrivances with stones and different kinds of substance, such as peat, forest leaves, &c., to retain moisture there, the soil being excessively dry. This garden is well worthy of the visit of amateurs; for, taking it all in all, it is quite unique, and an object of no little curiosity. We have never met with anything like it on so extensive a scale, either in this country or in Europe; and we are informed that its opulent owner, with great liberality, allows all respectable applicants to walk over it at their leisure.

## AMERICAN AGRICULTURAL ASSOCIATION.

This Institution held its regular meeting on Wednesday evening, May 6th. Although the number in attendance was small, the subjects discussed were not deficient in interest.

*Alpaca Fund.*—Mr. Moses Barran, of Mount Morris, N. Y., announced through the Treasurer of the Association, that he had subscribed $200 towards the enterprise of introducing the Alpaca into the United States.

*Syrian Millet.*—S. B. Parsons, who had recently returned from the South, stated that the Syrian millet (*Sorghum halepense*) is successfully cultivated in Carolina and Georgia, from seeds procured from the banks of the Nile. This species of grass, he said, has a tuberous, perennial root, with a succulent top, and has grown five feet high on the dry, pine-barrens of North Carolina, and promises to afford a valuable forage for cattle, on the poorest soils of the South, without manure.

*Egyptian Horse Beans.*—Capt. Luther T. Wilson, recently from Egypt, invited the attention of the Society to a few bushels of beans which he had brought from that country, and had deposited for seed in the warehouse of Mr. A. B. Allen, at 187 Water Street, N. Y. He said that these beans grow all over Egypt, but principally in the upper part, and that they are much exported to England as food for horses. He remarked that they brought, at Cairo, seventy cents per bushel, by the cargo, and that the annual amount carried to Europe, he had understood, was 600,000 bushels.

Mr. Amb. Stevens explained the difference between the properties of Egyptian and other beans, and Indian corn, with reference to the feeding of horses, and pointed out the importance of obtaining a kind of bean that is not too stimulating to them, which can be cultivated in the United States as a field crop. He recommended that experiments be made in different parts of the country, with the Egyptian horse bean, both as regards its culture, and applicability as food for horses and other animals; upon which, a committee was appointed, consisting of himself and the chemist of the Association, to analyze and report upon this vegetable, forthwith, through the columns of some of the leading agricultural journals of the day. Mr. Hammersley offered specimens, procured by himself, of the strata of the banks of the Nile, for examination or analysis by the committee.

The Association held a special meeting on Wednesday evening, May 20th, from which they adjourned until the first Wednesday of October of the present year.

## MEDICINAL SPRINGS AND CLIMATE OF FLORIDA.

A HIGHLY respectable and intelligent correspondent from South Carolina, commenting on that part of Mr. Parsons' article on the "Agriculture of Florida," page 118 of our April No., where he speaks of the country around Lake Monroe, says: "This is the *one spot*, where *every invalid* in the United States, seeking a delightful winter resort, will come, if suitable accommodations can be provided for him. The balmiest air; a lovely lake; abundant game; orange groves; sulphur, chalybeate, and iodine springs—all in one neighborhood, and of the *highest virtues*. I prefer the waters to the Saratoga, Virginia, or any European springs I have visited. If you know a thorough Boniface who can command $25,000 capital, send him out there, and I will guarantee him a large fortune in a few years. If I knew the right sort of man to put there, I would not hesitate a moment to purchase the spot myself."

On showing the above to Mr. Parsons, who has recently returned from Lake Munroe, with improved health, he corroborates all that our correspondent says—speaks very favorably of the mild and equable temperature of the climate, and is of the opinion that the medicinal springs are of the highest value. Living there would be cheap, and of the best kind. Fish, deer, turkeys, and ducks equal to the best canvass-back, are in such abundance, that a single man with his rod and gun, would easily keep a large family at all times liberally supplied with fresh meat of the most delicious kinds. The pastures are green all winter, and cattle cost little to be kept. Mutton, beef, milk, vegetables, eggs, and indeed all farm and garden products are easily attainable. Besides these comforts, oranges, and several other tropical fruits are plenty.

Lake Munroe is only one week's travel from New York, and the whole distance is easily accomplished by railroad and steamboat. The agricultural advantages of the country are considerable. Any one wishing further details on these matters, would obtain them by addressing Mr. S. B. Parsons, Flushing, Long Island.

## THE CHECK OR BEARING REIN.

I AM anxious, in this place, to add my anathema against that inhuman instrument of torture, the bearing-rein. It is no less detrimental to the utility of the animal than it is replete with agony to him. It must have been invented by a savage, and can only be employed by the insensate. Whence the benefit of unbearing a draught-horse when going up hill? Because the head can then be thrown into its natural position, and materially assist by its weight in drawing the load. If it is beneficial to loose the head at that time, it must also be so on other occasions. Look at the elongated mouths of the unfortunate animals thus so wantonly abused—torn by the bit in their unavailing efforts to overcome this truly barbarous instrument! What produces that dreadful disease, poll-evil, but the action of this cruel strap; constraining the head during the violent exertions of the animal, producing inflammation and ulceration of the point upon which it articulates with the spine? Poll-evil, so generally supposed to originate from blows inflicted on the part, is attributable alone to the gagging-rein. I never saw a horse used entirely for the saddle attacked with this affection. In order to obtain momentary relief from the torment inflicted by the bearing-rein on the poll and mouth, the poor creature is compelled incessantly to toss up his head. By thus strapping down the head you say, practically, "I expect you to draw a certain weight, but I will take away part of your power of doing so." Some have urged that the bearing-rein contributes to the safety of the animal, who, without it, would be more liable to come down. However applicable such an argument may be to those employed in quick draught—though even with them the utility of this instrument is not only exceedingly doubtful, but fast giving way to a more rational method of treatment—it assuredly does not apply to cart-horses, for little fear is ever entertained of their falling; and broken knees, so common among the faster breeds, are rare amongst them.—*The Horse in Health and Disease.*

HOW TO MAKE A HORSE CARRY A GOOD TAIL.—The peculiar manner in which an Arab horse carries his tail has for a long time excited admiration. It results from the form of the croup, which may itself be an effect of art continued for a long series of ages. It is possible that this deviation in the position and carriage of the tail may have been first induced by the invariable Eastern custom of keeping the tail shorn of its hair during the period of growth. The colt is docked early in life, and from that time the dock is kept constantly trimmed until the fourth or fifth year, or even later. This practice, by removing the weight of hair which tended to press down the tail during the colt's growth, has the effect of improving its permanent position, and giving rise, in the course of many generations, to a slight deviation from the usual construction of this part of the frame.—*Ibid.*

BONE MILLS.—Scarce a week passes that we do not receive various letters upon the subject of the cost of bone mills and their construction. Bone is an exceedingly hard substance, and very difficult to grind. It requires a mill of great strength, and a steady power of at least fifteen horses. Water or steam is the best power to be applied, that of animals or wind is too unsteady. A good mill could not be constructed for less than $1,500 so far as we know. We have examined all the cheap concerns costing from $50 to $300 each, and candidly say, they are not worth a penny for grinding bones. They are not strong enough, nor can they be made so without costing a high price. After the castings are obtained it requires a mill-wright to set them up and construct the machinery for their operation.

JERUSALEM ARTICHOKES.—Last year I planted one peck, and raised nearly 25 bushels. This encouraged me to plant 15 bushels the past month, and if the result prove equal to that of last year, I shall get 1,500 bushels. I planted them in rows 30 inches apart, dropping the cuttings one foot apart in each row. The after culture will be the same as with potatoes. R. L. C.

# Ladies' Department.

## HINTS TO COUNTRY HOUSEKEEPERS.

My country friends have discovered long ago, or I have been strangely misunderstood, that I am a utilitarian, and therefore they will not be surprised at receiving another lecture upon the advantages of early rising, and household economy as connected with it. The subject can scarcely be brought too frequently into the notice of young people; or borne too constantly in mind by those more advanced in years, who value time as it should be valued, and the acquisition of industrious habits, with the wonderful effects which may be produced by the careful management of the hours not necessarily devoted to sleep. I would have everybody, women and children not excepted, for, to them indeed, I especially address myself, *always employed*. Their occupations might be as various as their convenience should require, or their tastes dictate—from making a loaf of bread or a shirt, embroidering a purse, arranging a bouquet, or painting a flower, up to studying a science or calculating the return of a comet; but they must be at work upon something; even when the object may appear very trifling—unless higher duties are neglected, it is not waste of time,—and is better than doing nothing; above all, never be guilty of so sad a mistake, as to dignify *idleness* by calling it *rest*. If the hands are tired, let the head work by reading and reflection; if the whole frame has been overtasked, and the mind sympathizes too much to be exerted to advantage, I should recommend, as the best restorative, a short sleep, and a drive to visit some agreeable neighbor,—nothing restores the exhausted powers more effectually, than interchange of sentiments with a friend. Such extreme cases, however, can seldom happen, except to those who are compelled to labor for a livelihood, or the welfare of their families,—and to them rest is a luxury too rarely enjoyed, and too dearly bought, to be denied or curtailed.

The celebrated Sir William Jones was a very early riser, and when he was asked how he accomplished so much more than other men, he alluded to this habit, and added, "*I never do nothing*"—a maxim which ought to be written in letters of gold, and adopted by every one who aspires to excellence. Children love to rise early, and they should be allowed to continue to do so; they hate idleness, and they should be encouraged to employ their little fingers in stringing beads, making chains of dandelion stems, or any other attractive childish pastime, which would teach those habits of *patient labor*, which, though they may be laid aside for a time, are never entirely forgotten, and are resumed much more easily than they can be acquired, when thought begins to influence the actions of young women.

Let us now suppose that my fair countrywomen think with me, that early rising is essential to the good government of a family—that a late breakfast not only deranges the business of the whole day, but by throwing a portion of it upon the next, will introduce confusion, not soon remedied—and then they will also agree with me that a farmer's family should never breakfast later than six o'clock in summer, and seven in winter. Habit will soon make this agreeable, and they will wonder at their reluctance to adopt the plan, and be agreeably surprised to find how much too short even the longest day is, for all they wish to accomplish.

In this country, I believe no lady delegates all the household cares to her domestics, however numerous they may be; and in the rural districts, where trained servants are so hard to be obtained, and so difficult to keep, if she wishes to be spared the horrors of *keeping house all day*, she must devote an hour or two every morning, exclusively, to the inspection of every department of her establishment—dairy, poultry-yard, kitchen, and garden—all must be carefully reviewed—and errors reformed before they become confirmed abuses. If she is regular and systematical her labor will be light; much trouble will be saved; and, what is of much more importance than at first sight it appears to be, no one need be put out of temper by being gently reminded that they have broken a *rule*.

The whole family should be ready to take their seats when the coffee is placed upon the breakfast table; no laggard should be waited for, nor indulged in a lazy habit by having hot coffee and muffins ready whenever he thinks proper to make his appearance. I have known a case where three or four *cold*, comfortless breakfasts, operated wonderfully in curing a heavy sleeper of indulging in "the other nap." As soon as breakfast is over, and while the servants are eating theirs, the lady should wash the cups, glasses, &c., and arrange the pickle plates, castors, salt-cellars, and other matters, for the dinner table—and even trim the lamps, which seldom burn well when left to the care of subordinates.

Each member of a family, daughters and sisters, should have a regular task to perform, which may be taken in rotation, that all may be familiar with every department of housekeeping—but no interference with each other's duties should be allowed, beyond a kind hint to help the ignorant and inexpert beginner. When the cook has put everything in its proper place, the lady should go into the kitchen to give her orders for dinner; review all that is left of cooked meats from the day before, and direct *clearly* the manner in which the fresh provision is to be dressed; but this she will never be able to do, unless she knows practically as well as theoretically, how to compound each dish she orders—and remembering that "spices are the invisible spirit of cookery, which should rather be suspected than tasted"—she should weigh and measure the seasoning for every new dish, until the cook is a complete mistress of her art.

The dinner table should be arranged every day with the same scrupulous regard to neatness, as if company was expected—it will not be more troublesome, nor more expensive, and the husband or father will never hesitate to carry an unexpected friend home to dine with him; nor feel afraid of finding a soiled table-cloth and unpolished knives; nor the mistress of the family fretting over, and apologizing for a badly-dressed dinner.

Neatness is only another word for taste and elegance, yet the absence of it involves all that is most unlovely in woman. The females of a family should never appear at the breakfast-table in soiled or tumbled dresses; no matter how coarse or plain the cotton gown; with a clean white kerchief, and the hair accurately brushed, it is all that is necessary to a proper appearance. I cheerfully exonerate country ladies generally, from the charge of a want of due attention to cleanliness, but I must confess in sorrow, that, in a few instances, I have been shocked to see fine stockings and embroidered collars worn in the morning, *because they were not clean enough* to appear in during the latter part of the day; and I have seen, may I never witness it again, a dress of expensive material and delicate texture, dragged out and soiled, put on at breakfast, and worn to the dairy, because none but the family were present! A poor compliment to one's father or brothers to tell them virtually, if not literally, that their good opinion is of less consequence than that of a casual visitor, whom, perhaps, one may never see again! E. S.

*Eutawah.*

## Boys' Department.

### GOOD TOOLS FOR BOYS.—No. 1.

LARGE as the whole body of farmers in our country plainly appears, when compared statistically with the rest of the community, consider but for a moment, and you will gain sight of this most interesting idea, that the whole body of farmer-boys cannot certainly number less than many thousands, and further, that these, growing older with each passing season, are gradually initiated into the various branches of farm work, till, sooner or later, they master the whole.

Edward, for instance, will learn to mow this year, though, last year, he was not ripe for it; and George prides himself that he is now able to hold plow, whereas, last year, he could only drive the team. Very likely, then, in fact it may be said, necessarily, among these thousands, there will be some unfortunates who begin work too soon, some driven to it by boyish ambition, some by hard masters. It is a hundred-fold better that they should, one and all, begin late than too early, since learning late with health unbroken, and strength whole, far outweighs learning too soon, which most frequently crushes at once the spirit to work, and always the strength.

Working, begin when you will, implies tools now-a-days. Some farmers, apparently in the belief that, give whatever kind of tool you choose to a learner, he must use it,—that a good tool, therefore, in the unpractised hand of the boy is no less misplaced than an elegant copy-book to hold the first rude scrawl, and therefore equally foolish, —conclude readily, too readily, that the boys must not have tools good as the best. Fancying it must be true in everything, that the first attempts should be made with the coarser means, partly led into this by a stinting of cost, money being so precious, and the ways to spend it so many, their habit is harshly to turn off the boy with an old scythe, clumsy, or ill hung, with the rough-handled hoe of rusty blade; but let their own benevolence have full scope in that tool, which is newest and best—anything, in the view of such economists, anything for boys, but for men the best.

Entirely willing to trust the candor and common sense of farmers once roused, let me ask you (for I cannot conceive) behind what shelter this wretched limping habit of not giving boys good tools, can hide itself to be safe. "Because they have not skill to use such; because the poorer serve as well to break, and spoil." Shame on such a reason; a mere spider-web. Long years of teaching from the treasured knowledge of books, long years from the voice of a living teacher your boy is to waste, is he? and spend, and learn the secrets and motions which are to govern plowing? It is not long time alone which teaches this; for some old farmers, it is a pity, but a fact, are "old fools." It is not practice alone, for some hard-working farmers are slaving fools; but it is time, with practice and with sharp *attention*, which beget skill in farming.

Lately, if not long ago, it has been found that, comparing five men, whose strength is the same, whose skill the same, never mind the ages, but who handle tools of different quality, that hand furnished with the best tools can do the most work; that is, other things equal, the quantity of work is as the varying quality of the tool, and therefore excellence of tools never fails to confer on the user a certain fragment of advantage. Such advantage, great or small, naturally and properly true kindness and love would lead us to give cheerfully into the hand of whoever has most need of it.

Now, boys are, as an obvious fact, least skilful, having but slight acquaintance of the new business which they could learn, and whose door of entrance had, till then, been locked with grumbling caution. Boys are, beside the other workmen, surely the least strong, or mature, their young gristle not hardened into bone; they are most sensitive, not nerved to bear disappointing and failing with the courage of men, however manly the youngster may be for his years; there is no pleasure to them lagging far behind, that those in advance are laughing in the outflow of sociality; there is an ambition to do well, by a thorough use of his power, which should be fanned, a proper love of praise worthy to be nourished; their habits of work, which will be apt to last life-long, are now just cooling in the mould where they were run; the whole character of the lad is like a fused metal, so that you give it what cast you like—these are the boy himself. Who will doubt, then, that the boy most needs the good tools, the good? aye, even the best, so that, indulgently hearing us so moderate, the only claim is for *good* tools, ye who heartily love your sons, give them that help. Not fit to use such! How foolish to say this, and fancy it! overlook the plain truth, that whoever has the skill, the wit, the tact, so far to conquer the evils and troubles of a bad tool, as to use it well, can use any other. Ability to compass the former must, practically speaking, measure a quart, if that for the latter be a pint. Does not the quart include a pint?

Candidly confess, then, if the above be so, that the proper conclusion is either that your son is fit to learn the use of good tools, or of none. Thus, far, I have battled in behalf of good tools, for the boys' sake—next for the sake of the master, or the affectionate parent. LEBT.

## FOREIGN AGRICULTURAL NEWS.

By the steamer Britannia we are in receipt of our foreign journals up to May 5th.

Markets.—*Ashes* an improved demand. *Cotton* was firm, with an upward tendency. The stock on hand in Liverpool on the 1st of May, was 800,000 bales, against 860,000 same period last year. *Flour* no change, nor can there be till the corn bill is passed, of which there is a speedy prospect. *Indian Meal* selling freely. *Cheese* had slightly advanced. *Beef* and *Pork* dull. *Naval Stores* sales large. *Tallow* a trifling reduction. *Tobacco* little was doing. *Wool* an increased trade in foreign qualities.

*Money* was much easier and readily obtained at 3½ to 4 per cent.

*American Provisions* of all kinds were arriving freely in the British ports, and a quick market was anticipated for them, although prices may rate low.

*Early New Potatoes* appeared in the Irish market on the 18th of April. They were of the early cruffely kind, planted in January, and were nearly full-sized and perfectly free from disease of any kind.

*An Apple Tree with Blossom and Fruit.*—We paid a visit to an old and esteemed friend, Mr. T. B. Blackburne, at his residence in Cheshire, and, in walking through his garden, saw an apple tree bearing bloom and fruit at the same time. The apples had remained on the tree all through the winter, and appeared likely to continue there to welcome the succeeding year's fruit. We brought one of the apples away, which we send to a mutual friend at New York, as one of the latest novelties from England.

*Guano and the Potato Disease.*—Professor Johnston delivered a lecture on agricultural chemistry to a considerable number of farmers and others interested in agricultural pursuits, in the town of Montrose. In the course of his observations the learned Professor referred to the application of manure to the potato crop, with a view of stopping the progress of the disease. He recommended various applications, such as guano, pounded kelp, and pearl ash, and condemned the use of fermented dung. He stated, that where the dung was the richest the disease was the worst; and that there was least disease where guano was employed.

*Introduction of South American Potatoes into England.*—Potatoes from the Azores, New Granada, Oporto, and Naples, have been received in the garden of the London Horticultural Society, and are about to be planted for the purpose of ascertaining whether a crop of sound potatoes cannot be produced from them. Those from Oporto consist of a pink and white kind. The sample from New Granada was composed of small, but clean fine-looking tubers. All the above-mentioned are apparently quite free from the peculiar disease of last season. Plants of the Yellow Peruvian potato, growing in pots, appeared to be healthy.

*To Effect Great Agricultural Improvements.*—Mr. Mechi says, in considering how these improvements can be most readily effected—it is quite clear that individuals generally have seldom the means, the ability, or the inclination to carry out a *perfect* system of Agricultural Improvement; it must be done by companies of associated capitalists, the same as our railways and other great undertakings. I will venture to assert, from experience, that there is not, in agricultural undertakings, *one-tithe* of the difficulty or uncertainty that attended railway operations. If there had been such a company, I, for one, would have invested my spare capital in it; but there not being one, I have carried out individually, at no small personal trouble and thought, those improvements which I hope to see some day effected, as a matter of course, by a well-regulated charter, of associated capitalists, who will derive not only a good pecuniary benefit, but the more enviable gratification of having conferred a valuable boon on their fellow countrymen.—*Farmers' Herald.*

*Improved Method of Managing Farm-yard Manure.*—At a late meeting of the Council of the English Agricultural Society, M. Encoutre submitted his plan of managing farm-yard manure. He said that the greater number of farmers left their manure-heaps exposed to the rain, while the smaller number covered them with earth, but imperfectly, and without entirely preserving them from injury and loss; and he was led to conceive that this object would be most effectually attained by covering the whole of their surface with a layer of tar mixed with lime. This covering, he imagined, would not only be a complete protection against the rain, but would also tend to tho attainment of the following objects:—1. The retention of those exhalations which have nitrogen for their chief element, and, in a manuring point of view, are of the greatest value. 2. The watering of the heap by different manuring liquids produced on the farm, or furnished from other sources, should a deficiency exist. 3. The acceleration of the fermentation and decay of the heaps by passing through them different pipes heated by means of steam to a temperature ranging from 60 deg. to 70 deg. F., and supplied by a boiler, of which the original price would not be more than £2 or £3. M. Encoutre also stated that the grain, before being sown, was immersed in a solution of gelatine and starch diluted with brine, and then sprinkled with the manure reduced to a dry and powdery state. Having given this account of his plan, he proceeded to detail the practical results which had been obtained in France by its adoption; from which it appeared:—1. That only one-sixth of manure thus prepared would be required in comparison with the quantity of common farm-yard manure usually applied for the same extent of surface. 2. That the produce of grain was found to be one-sixth greater where his manure had been used. 3. That after two years the same land was found to require only one-half of the original manurings to keep it in the same condition. 4. That the expense attending the application of this manure was 8s. per acre. M. Encoutre, in conclusion, requested the Council to appoint one or more farms in different parts of the country where his experiments might be repeated, and the value of his plan brought to the test of practical trial, expressing his willingness to give his personal attendance to each of the places selected, and to instruct the parties appointed to make the trial in the mode of proceeding.—*Ibid.*

*How to Use Ammoniacal Liquor.*—It should be diluted with four or five times its bulk of water, or till it is nearly tasteless, and used as a top-dressing for grass or young corn, could it be conveniently applied to the latter; or, there may be added to it, in this diluted state, a sufficient quantity of gypsum, or, more directly, sulphuric acid, for the purpose of fixing the ammonia which it contains.—*Ibid.*

*Value of Bone Dust.*—A farmer recently instituted privately some comparative experiments, the results of which proved that bone-dust acts in the cultivation of ground as compared with the best stable manure—1. In respect to the quality of grain, as seven to five. 2. In respect to the quantity, as five to four.—3. In respect to the durability of the energy of the soil, as three to two. It produces several collateral advantages:—1. It destroys weeds. 2. It diminishes the necessity of suffering the land to lie fallow. 3. This concentrated manure, or substitute for manure, is more easy of conveyance, less laborious to spread, and can with facility be applied to the steepest vine yards or other wet lands, either in mountainous countries or in wet meadow land. 4. It renders agriculture practicable with cattle breeding or grazing.—*Ibid.*

# Editor's Table.

The Book of Illustrious Mechanics of Europe and America. Translated from the French of Edward Foucaud, by John Frost. D. Appleton & Co., 200 Broadway. Pp. 344, with numerous embellishments. Price $1. This is an exceedingly interesting and most valuable work, especially for the young mechanic. It shows him what has been done by eminent persons in the trades, thus teaching him by example what he himself is capable of arriving at, if he uses proper industry, economy, and perseverance.

A Treatise on Milch Cows. By M. Francis Guenon, with introductory observations, by John S. Skinner. Published by Greeley & McElrath, Nassau Street, N. Y. We have not had an opportunity of examining the living subjects to test the accuracy of the wonderful discovery herein claimed by M. Guenon; but a friend of ours in the country, who took the work in hand, and looked over three separate herds of cows comprising 153 head, embracing all kinds of milkers, from very good down to very poor, informs us, that the "*quirls*" were far from proving infallible guides in distinguishing their good or bad qualities at the pail. Observations are now making in various places which will fully determine the truth of the criterion. If the book prove not true, still it is of value as a commencement of a new kind of observation on the subject. And yet we think those tests already well known to shrewd judges, of the size and shape of the bag; the texture of its skin; the setting of the teats and their number; and the development of the milky veins in a calf, are more certain evidences of good or indifferent milking qualities, than those here given by M. Guenon.

A First and Second Latin Book. By Thomas Kerchever Arnold. Carefully revised and corrected by Rev. J. A. Spencer. From the fifth London Edition. D. Appleton & Co., 200 Broadway. Pp. 333. Price $1. These volumes are the first of a series of classical school books on the basis of Ollendorf's much and justly admired system—imitation and frequent repetition—just as a child learns its own language.

A Practical Introduction to Latin Prose Composition. By the same author and reviser as the above. Appleton & Co., 200 Broadway. Pp 340. Price $1. The principal advantages which this work has over those of a similar kind are, that it contains a copious, but concise illustration of Latin synonymes, and a careful and precise notation of the differences of idiom between the Latin and English languages. In addition to this the exercises are wholly in English. We know of none more valuable than the two works above, for the elementary scholar.

Statistics of the Woollen Manufactures in the U. S.; containing the number of woollen manufactories in operation in the U. S.; the location; with the names of the owner, firm, or company; the number of cards run by each; and the kind and quality of goods manufactured, &c. Wm. H. Graham, publisher, Pp. 190. Price 50 cents. This is a valuable statistical work, and is prepared with more accuracy and fulness of detail than we could suppose possible.

A Guide to the Orchard and Fruit Garden; or an Account of the most valuable Fruits cultivated in Great Britain. By George Lindley. With additions of all the most valuable Fruits cultivated in America. By Michael Floy, Gardener and Nurseryman, Harlem, N. Y. Published by J. C. Riker, 129 Fulton Street. Pp. 420. Price $1.50 We are pleased to hail a new and improved edition of this valuable work of Prof. Lindley, Americanized by so experienced a pomologist as Mr. Floy, who says, very truly, that the superiority of this work consists in the exceeding accuracy of its nomenclature. Mr. L. availed himself of the facilities afforded him by the gardens of the Horticultural Society of London, where fruits of all kinds and from all quarters are cultivated, their characters noted, and their merits or demerits fairly weighed. We need not inform our readers that this is a standard work, and by the valuable additions of Mr. Floy it is almost as necessary to the American as to the English cultivator of superior fruits.

Coal Tar not good for Fruit Trees.—A correspondent in the Ohio Cultivator states, that a neighbor of his had a large orchard of young apple trees, planted out one year, and a number of fine budded peach trees, some of which had been badly used the winter before by the rabbits; and to all of which he applied last fall, coal tar, laid on with a painter's brush, to the height of two feet from the ground. He says that he found this "a fatal plaster," and they are now all dead!—burnt up, as if *aqua fortis* had been rubbed round their trunks! This is bad enough; but my neighbor, in his unbounded admiration of Downing, had purchased in Cincinnati a barrel of the *black drop*, and insisted upon my using it on some of my beautiful and choice peach trees, which, the spring before, I bought of that excellent nurseryman, S. S. Jackson; and they, too, are all dead!

A Great Layer.—A friend informs us, that he has a Dorking hen which laid 142 eggs last year, without sitting. She then sat and hatched out a brood of 14 chickens. Who can beat this?

An Extraordinary Potato.—A sweet potato, raised in this town from seed planted in June, was shown to us on Friday last. When first taken from the ground it weighed *fourteen and three quarter* pounds, and measured in circumference *thirty-four* inches. In shape it resembled a turnip more than a potato.—*Newport Rhode Islander.*

A Prolific Cow.—Mr. Benjamin Eaton, of Bowdoin, Lincoln County, Me., owns a cow, which, within a year, produced *five calves*—the last time, *three heifer calves*—which are all in a thriving condition. The owner intends raising these for his own dairy. Such instances are rare of fruitfulness in cows.

Bee Feeder.—Mr. Elam Bush, of Shoreham, Vt., has just proved a new feeder, constructed by himself. The bees feed actively and with perfect safety, when the sun shines, even in cold weather. It is a square tin box with a glass cover, having a hole through the back. This is to be fastened to the hive, so that the bees can pass out and into the box only.—*N. Y. Mech.*

Sugar Crop.—Mr. P. A Champomier, of North Carolina, has published a pamphlet giving the detail of the sugar crop of Louisiana last year. The product was 136,650 hhds., weighing 207,337,000 lbs. The number of planters is 2,077. In 1844 the number of hhds. was 191,324, and of pounds 204,913,000. It should be remarked, however, that in the above estimate of the crop of 1844 the cistern sugar was excluded, while that of the past season is included.

The molasses crop of last year was estimated by Mr. C. at 9,000,000 gals.

Cherry and Peach Leaves Poisonous to Sheep.—A farmer lately turned his sheep into a lot occupied by some cherry trees, which had sent up shoots from the roots; the consequence was, that the sheep partook of the leaves of these shoots, and were soon seen staggering about the lot and tumbling upon their heads. Many of them died, when their stomachs were found to contain large quantities of these leaves, which, all know, abound with *prussic acid*, fatal alike to man and animals. It should be known, too, that the stones and twigs, as well as the leaves of the peach, also contain prussic acid, and are poisonous.

# REVIEW OF THE MARKET.

## PRICES CURRENT IN NEW YORK, MAY 25, 1846.

| | | | | |
|---|---|---|---|---|
| ASHES, Pots, | per 100 lbs. | $3 75 | to | $3 88 |
| Pearls, | do. | 4 06 | " | 4 12 |
| BALE ROPE, | lb. | 5 | " | 7 |
| BARK, Quercitron, | ton, | 24 00 | " | 25 00 |
| BEANS, White, | bush. | 1 12 | " | 1 25 |
| BEESWAX, Am. Yellow, | lb. | 28 | " | 33 |
| BOLT ROPE, | do. | 12 | " | 13 |
| BONES, ground, | bush. | 40 | " | 55 |
| BRISTLES, American, | lb. | 25 | " | 65 |
| BUTTER, Table, | do. | 16 | " | 25 |
| Shipping, | do. | 9 | " | 13 |
| CANDLES, Mould, Tallow, | do. | 9 | " | 11 |
| Sperm, | do. | 25 | " | 38 |
| Stearine, | do. | 20 | " | 25 |
| CHEESE, | do. | 5 | " | 10 |
| COAL, Anthracite, | 2000 lbs. | 5 00 | " | 6 00 |
| CORDAGE, American, | lb. | 11 | " | 12 |
| COTTON, | do. | 6 | " | 11 |
| COTTON BAGGING, Amer. hemp, | yard, | 13 | " | 14 |
| Kentucky | do. | 12 | " | 13 |
| FEATHERS, | lb. | 28 | " | 34 |
| FLAX, American, | do. | 7 | " | 8 |
| FLOUR, Northern and Western, | bbl. | 4 50 | " | 4 75 |
| Fancy | do. | 5 25 | " | 5 38 |
| Southern, | do. | 4 38 | " | 4 62 |
| Richmond City Mills, | do. | 6 00 | " | 6 25 |
| Rye, | do. | 3 00 | " | 3 12 |
| GRAIN—Wheat, Western, | bush. | 93 | " | 1 11 |
| Southern | do. | 90 | " | 1 00 |
| Rye, | do. | 66 | " | 67 |
| Corn, Northern, | do. | 67 | " | 69 |
| Southern, | do. | 60 | " | 65 |
| Barley, | do. | 52 | " | 53 |
| Oats, Northern, | do. | 42 | " | 43 |
| Southern, | do. | 35 | " | 37 |
| GUANO | do. | 2 00 | " | 3 00 |
| HAY, in bales | 100 lbs. | 65 | " | 80 |
| HEMP, Russia, clean, | do. | 205 00 | " | 210 00 |
| American, water-rotted, | ton, | 105 00 | " | 185 00 |
| American, dew-rotted, | do. | 75 00 | " | 125 00 |
| HIDES, Dry Southern, | do. | 8 | " | 10 |
| HOPS, | lb. | 20 | " | 35 |
| HORNS, | 100. | 1 00 | " | 7 00 |
| LEAD, pig | do. | 4 12 | " | 4 25 |
| Sheet and bar | lb. | 4 | " | 4½ |
| MEAL, Corn, | bbl. | 3 25 | " | 3 38 |
| Corn, | hhd. | 15 75 | " | 16 00 |
| MOLASSES, New Orleans, | gal. | 28 | " | 30 |
| MUSTARD, American, | lb. | 16 | " | 31 |
| NAVAL STORES—Tar, | bbl. | 1 50 | " | 1 75 |
| Pitch, | do. | 1 00 | " | 1 06 |
| Rosin | do. | 58 | " | 65 |
| Turpentine, | do. | 3 50 | " | 4 00 |
| Spirits Turpentine, Southern, | gal. | 30 | " | 35 |
| OIL, Linseed, American, | do. | 64 | " | 65 |
| Castor, | do. | 60 | " | 73 |
| Lard, | do. | 67 | " | 70 |
| OIL CAKE, | 100 lbs. | 1 75 | " | 1 88 |
| PEAS, Field, | bush. | 1 50 | " | 2 69 |
| PLASTER OF PARIS, | ton. | 2 87 | " | 3 00 |
| Ground, in bbls., | of 300 lbs. | 1 12 | " | 1 25 |
| PROVISIONS—Beef, Mess, | bbl. | 7 00 | " | 9 00 |
| Prime, | do. | 4 50 | " | 5 50 |
| Smoked, | lb. | 6 | " | 9 |
| Rounds, in pickle, | do. | 4 | " | 6 |
| Pork, Mess, | bbl. | 10 50 | " | 13 00 |
| Prime, | do. | 8 75 | " | 10 00 |
| Lard, | lb. | 6 | " | 7 |
| Bacon sides, Smoked, | do. | 3 | " | 4 |
| In pickle, | do. | 3 | " | 4 |
| Hams, Smoked, | do. | 6 | " | 10 |
| Pickled, | do. | 4 | " | 7 |
| Shoulders, Smoked, | do. | 5 | " | 6 |
| Pickled, | do. | 4½ | " | 5 |
| RICE, | 100 lbs. | 3 75 | " | 4 56 |
| SALT, | sack, | 1 22 | " | 1 35 |
| Common, | bush. | 20 | " | 35 |
| SEEDS—Clover, | lb. | 6½ | " | 9 |
| Timothy, | 7 bush. | 10 00 | " | 15 00 |
| Flax, clean | do. | 10 00 | " | 11 00 |
| rough, | do. | 9 00 | " | 10 00 |
| SODA, Ash, cont'g 80 per cent. soda, | lb. | 3 | " | 3 |
| Sulphate Soda, ground, | do. | 1 | " | — |
| SUGAR, New Orleans, | do. | 5 | " | 7½ |
| SUMAC, American, | ton, | 35 00 | " | 37 50 |
| TALLOW, | lb. | 7 | " | 8 |
| TOBACCO | do. | 3 | " | 8 |
| WHISKEY, American, | gal. | 19 | " | 21 |
| WOOLS, Saxony, | lb. | 35 | " | 54 |
| Merino, | do. | 30 | " | 30 |
| Half blood, | do. | 25 | " | 35 |
| Common do | | 20 | " | 22 |

**Remarks.**—*Ashes* in fair demand. *Cotton* has receded a shade since the arrival of the Britannia. *Flour* in moderate request, with a very large stock on hand. *Grain* of all kinds dull. *Molasses* firm. *Naval Stores* little doing. *Provisions* generally in fair demand. *Cheese* quite brisk. *Rice* dull. *Sugar* firm, and in demand. *Tobacco* in fair request. *Wool* quiet.

*Money* is much easier.

*Stocks* have become quite firm.

*The Weather* has been very rainy through May, and rather warm. At the South we hear complaints of the backwardness of the Cotton. Sugar, Rice, and Tobacco, are remarkably promising. Wheat generally is looking well, a few fields have been ravaged by the fly. The crops at the North, though rather backward, are promising—grass and hay never more so. Upon the whole the prospects thus far are quite favorable.

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**To Correspondents.**—L. T. Talbot, S., M. W. Phillips, Prof. Gale, and Solon Robinson, are received.

**New York State Agricultural Society.**—At a meeting of the Executive Committee at Auburn, the past month, on motion of Mr. Stevens, it was

*Resolved*, That no Premium be hereafter given on fine-woolled sheep, except they shall have been shorn at the last preceding shearing season; that the date of the shearing and the age of the fleece be given; that on the sheep and fleece jointly the Premium be awarded; that the Committee consist of five, two of whom at least shall be staplers at the original Constitution of the Committee, and if practicable shall be so at the time of their final action; that satisfactory evidence of the age and identity of the fleeces; the time of shearing and age of the fleece be furnished to the Committee, or there shall no Premium be awarded.

**American Herd Book.**—Mr. L. F. Allen informs us that the printed sheets of his Herd Book are in the hands of the binder, and that they will be ready for delivery by the 10th or 15th of this month, at the latest. Subscribers in this vicinity can have their volumes by calling at our office.

**Imported Saxon Sheep.**—Four Saxon bucks and four ewes arrived at this port, to our consignment, on the 21st ult., on board ship Atlantic from Bremen. They were selected from the Electoral flocks in Germany, by Mr. John A. Taintor, of Hartford, Conn., one of the best judges of sheep and wool in this country. He was assisted in his choice by Baron de Spreck, one of the most celebrated wool-growers in Europe. In consequence of their being still in their cages while we are writing this paragraph, we cannot examine these sheep as well as we could wish; but they strike us as being by far the largest and best formed Saxons we ever saw—fully equal in size to the largest Merinos. In fact most superb animals, with a noble presence, and showing constitution equal to their size. The fleeces as well as we can judge are very soft and fine, covering the sheep clear down to their toes, and on their forehead and around their eyes. They will shear heavy. These sheep are for Mr. Saml. C. Scoville, Salisbury, Conn., who has a large flock of native Saxons. He designs them for his own use. We shall endeavor to give the public full particulars of this importation hereafter. We consider it a very important one to the country, and have no doubt Mr. S. will be well paid for his enterprise.

AYRSHIRE BULLS.

The Subscriber has one three-year old Ayrshire bull for sale, price $100; also, one three months old, price $30. They are bred from stock imported by himself, from the best breeds in Scotland. It is believed that they have no superiors in the United States. R. S. GRISWOLD.

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## PERUVIAN GUANO AT REDUCED PRICES.

The subscriber keeps this superior fertilizer constantly on hand for sale, in bags, barrels, half barrels, and kegs. It comes direct from the Agent of the Peruvian Company, and is warranted genuine and of a first rate quality.

| | |
|---|---|
| Five tons and over | 2 cents per lb. |
| One ton and under five tons | 2 1-8 do. |
| Half a ton and under one ton | 2 1-4 do. |
| Under half a ton | 2 1-2 do. |

This Guano is packed in bags weighing from 120 to 150 lbs.; barrels, from 220 to 250 lbs.; half barrels from 115 to 130 lbs.; kegs about 60 lbs. each. When a larger quantity than one ton is taken, it is expected it will be in bags. No allowance for tare, and no charge for packages. Cartage extra.

A. B. ALLEN, 187 Water Street, N. Y.

---

## HOVEY'S SEEDLING STRAWBERRY.

Price $1.50 per hundred plants, and $10 per thousand.

A. B. ALLEN, 187 Water Street, N. Y.

## NEW YORK AGRICULTURAL WAREHOUSE.

Farmers, Planters, and Gardeners, will find the LARGEST AND MOST COMPLETE assortment of Agricultural Implements of all kinds, at this Establishment, ever offered in the New York Market. Most of these Implements are of new and highly improved patterns, warranted to be made of the best materials, put together in the strongest manner, of a very superior finish, and offered at the lowest cash prices.

Among these implements are upwards of FIFTY different kinds of Plows manufactured by Ruggles, Nourse & Mason, of Worcester, Mass., also in New York—for the South as well as for the North; Harrows of different patterns and sizes; Rollers of wood and cast-iron on a new principle; Seed Sowers for all kinds of seeds, a recent invention; Cultivators, with different kinds of teeth; Horse powers of wood or of cast-iron, very strong and superior; Grain Threshers; Fanning Mills; Mills for grinding corn, &c., a new invention; Corn Sheller for hand or horse power, the latter shelling 200 bushels of ears per hour; Vegetable Cutters, will cut a bushel of roots for cattle in two minutes; Hay, Straw, and Corn-stalk Cutters; Scythes, Rakes, Shovels, Spades, Hoes—indeed, Field and Garden tools of all kinds.

*Castings* for the various kind of Plows manufactured in Worcester and New York.

*Seeds for the Farmer and Gardener.*—A choice assortment of the various kinds, such as Improved Winter and Spring Wheat, Rye, Barley, Oats, Corn, Beans, Peas, Rutabaga, Turnip, Cabbage, Beet, Carrot, Parsnip, Clover and Grass Seeds, and improved varieties of Potatoes.

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A liberal discount made to dealers.

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## DURHAM STOCK FOR SALE.

The Subscriber has on his farm near this city, more stock than he needs, and will sell two, two-year old, and two yearling heifers, one yearling bull, and four spring calves. The price of the latter will be from $50 to $75, when about 3 months old, and the price of the yearlings and two-year olds, will be from $100 to $125. This young stock was got by the bulls Duke of Wellington and the prize bull Meteor, both possessing the blood of the herd of the celebrated breeder, Thomas Bates, Esq., of Yorkshire, England. This stock is out of first-rate milking Durham cows, and will carry its own recommendation. GEO. VAIL.

*Troy, June 1st*, 1846. 2t

## POUDRETTE FOR SALE.

The Lodi Manufacturing Company offer Poudrette for sale at the following prices. At the Factory on the Hackensack River, 4 miles from New York in bulk, 35 cents per bushel, and $1.63 cts. per barrel. Delivered in New York from 1 to 6 bbls., $2 00 per bbl.; 7 bbls. and over, $1.75 per bbl. Apply to the office of the Company, 51 Liberty Street, or to A. B. Allen, 187 Water Street, where printed directions and other information may be obtained.

May, 2t

## FOR SALE.

A full blooded Narragansett, *entire* horse. This breed has been in the family of the late Governor Jay, for the last century. They are *rackers*, and not *pacers*. He is 8 years old, and the only *entire* horse of the breed which is left. He is very fast, will rack his mile within 3 minutes. Horses of this breed are highly esteemed as saddle horses for ladies and gentlemen, and bring a very high price. Apply to James R. Dey, No. 51 Liberty Street, New York.

## FIELD AND GARDEN SEEDS.

The Subscriber has been so often requested to add Garden Seeds to his assortment of Field Seeds, that he has at length consented to do so, and now offers for sale a great variety, grown by responsible persons, and put up expressly for him. They are fresh, and he confidently thinks may be relied upon.

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## TO GARDENERS AND NURSERYMEN.

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## DURHAM BULL FOR SALE.

Not having sufficient use for him, the subscriber offers for sale his thorough bred imported bull, Prince Albert. His sire was the celebrated bull, Sir Thomas Fairfax, and his pedigree can be seen, in the British Herd book, Vol. 4, page 382. He is five years old, a red roan, of medium size, and of quiet temper. If not previously disposed of, he will be offered for sale at the next show of the New York State Agricultural Society.

Letters on the subject can be addressed to the subscriber at Red Hook, Dutchess County, New York, where the bull may be seen.

ROBERT DONALDSON.

## THE AMERICAN AGRICULTURIST.

Published Monthly, by SAXTON & MILES, 205 Broadway, New York, containing 32 pages, royal octavo.

TERMS—One Dollar per year in advance; three copies for Two Dollars; eight copies for Five Dollars.

When Agricultural Societies order the work for distribution, among the members, the price will be only FIFTY CENTS a year, for the Monthly Numbers, and SEVENTY-FIVE CENTS per copy for bound volumes. It will be expected that these orders come officially, and be signed by the President or Secretary of the Society. The object in putting our periodical at this very low rate is, to benefit the farming community more extensively than it could otherwise be done. We hope, henceforth, to see the Agriculturist in the hands of every Farmer and Planter in the country.

Each number of the Agriculturist contains but One sheet, and is transported by mail under the same regulations as newspapers, viz.: *free* any distance not over 30 miles from its place of publication; over this and within 100 miles, or to any town in the State of New York, *one cent* postage on each number, and *one and a half cents* if over 100 miles, without the State.

Back Volumes of THE AMERICAN AGRICULTURIST, with tables of contents complete, for sale at $1.00 each; elegantly and uniformly bound in cloth, $1.25. These are handsome, tasteful books, and make very desirable premiums for distribution with Agricultural Societies, and should also find place, in all our District School Libraries. They constitute the best and most complete treatise on American Farming, Stock-Breeding and Horticulture, extant. When several copies are ordered, a liberal discount will be made.

Editors of newspapers noticing the numbers of this work monthly, or advertising it, will be furnished a copy gratis, upon sending such notice to this office.

## GUANO.

The Subscribers offer for sale, on very accommodating terms, the balance of the ship Shakspeare's cargo, the only direct importation into this port from Ichaboe. Much guano from other parts of Africa has been sold as Ichaboe, which on trial has produced unfavorable results. To prevent the loss of ammonia, this cargo has been put in air-tight casks. Apply to

Feb. 6, 1846. E. K. COLLINS & CO., 56 South St.

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ROTTERDAM.

# AMERICAN AGRICULTURIST.

*Agriculture is the most healthful, the most useful, and the most noble employment of man.*—Washington.

VOL. V. NEW YORK, JULY, 1846. NO. VII.

A. B. Allen, Editor. Saxton & Miles, Publishers, 205 Broadway.

## ECONOMICAL MODE OF PRESERVING CHERRIES.

A friend of ours, who was travelling through the county of Suffolk, on Long Island, a few months ago, informs us that, in stopping at a public house, he was surprised to find on the table a cherry pie, apparently as fresh and good as though the fruit had just been plucked from the tree. On inquiring where the cherries had been obtained, he was told that they had been gathered nearly a year, and had been preserved agreeably to the following recipe:—

Procure the cherries ripe and fresh from the tree, and without any preparation, put them into a bottle or wide-mouthed jar, filling it about three-fourths full. Then pour in common molasses, fresh and cool from the cask, until the vessel is nearly filled; cork or seal it up air-tight, and set it aside in some cool dry place, occasionally shaking the vessel, in order that its contents may be well mixed. A portion of the molasses will be absorbed by the cherries, which will render them sufficiently agreeable, when made into puddings or pies, without the addition of any sugar or syrup. The liquid which remains in the jar after the cherries are taken out, has an agreeable flavor, and, when mixed with water, forms a wholesome and refreshing drink.

## THE NATIONAL FAIR.

This was opened at Washington, D. C., on the 21st of May, and continued nearly three weeks. It was the first National Fair ever attempted in the United States, and was held for the double purpose of display and sale of the different kinds of domestic manufactures in wood, metals, silk, cotton, and wool. The exhibition exceeded all expectation, and required two large halls about 400 feet in length, to accommodate the different articles brought in. Of these there were an immense variety of superb finish, and great utility. The number of visitors at the Fair was estimated at over 30,000, and the receipts for sales of tickets went far to pay its expenses. It was an experiment, and has been eminently successful. A goodly number of agricultural implements were exhibited, and attracted much attention. We trust there will be a repetition of this Fair. Few things are better calculated to bring the North and South together, and give the people of this mighty Union an idea of the immense value and great variety of its domestic fabrics. Washington, during the session of Congress, is just the place for holding such a Fair; its natural position makes it a sort of middle ground, and being the seat of government, it will naturally attract more visitors than any other place out of the city of New York.

## EVIDENCE OF THE SEXES IN THE STRAWBERRY PLANT.

Mr. S. S. Jackson recently exhibited before the Cincinnati Horticultural Society, the following strawberries, which show conclusively the influence staminate flowers (males) have over pistillate ones (females):—

1. Hovey's pistillate seedling, grown with staminates near; had 30 large perfect fruit, and every blossom a perfect fruit.
2. The same strawberry grown by itself; 22 blossoms, a few defective, but not a single fruit.
3. The old genuine Hudson, grown with staminates near; 25 perfect fruit, and every blossom produced a perfect berry.
4. The same strawberry planted with the La Grange Hautbois; 28 blossoms, with not a single perfect fruit, but some very small defective berries.

(The object of this experiment was to test the question whether the Scarlets could be impregnated with the Hautbois.)

5. Hovey's Perfect (Blossom); 22 blossoms, but not a single perfect berry.

## CYLINDRICAL CHURN.

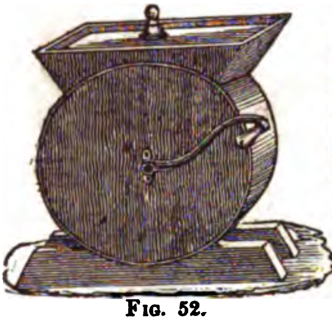


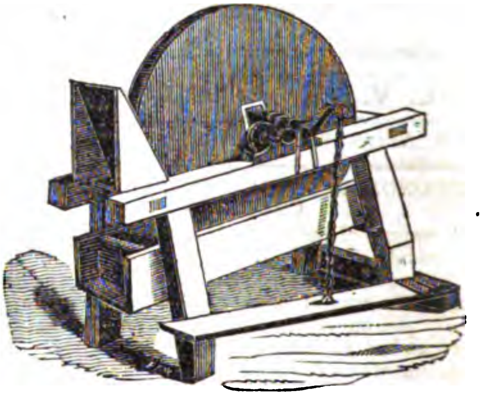
Fig. 52.

This churn is the best in use, as it is simple in its construction, and combines all the good qualities of other utensils of similar construction, with this additional advantage that the dasher or agitator can be taken out in a moment, any time it is required to be cleansed. This is important to be done after every churning, in order to keep it sweet, and from tainting the cream. Price from $2.00 to $4.00.

## AGRICULTURE IN CHINA.

The great requisites in the Chinese system of agriculture are manure and water; and, to obtain these, their whole energies are devoted. The soil is rarely allowed to lie fallow, and in most parts produces two crops annually. It is assiduously pulverized, and different soils are also mixed together to improve the quality of each. They will carry sand for a long distance, to mix with clay—heavy soils, and loam, to put with that which appears too loose. During the few months of winter, in the southern provinces, the soil is sometimes thrown up into heaps, where it has been mixed with some vegetable matter, thus making a kind of compost, and also presenting a greater surface to the air; after which, those lands which require flooding, are covered with water, and hoed and turned over, until the whole surface is reduced to mud. This process has still a further fertilizing tendency. For a manure, the Chinese collect everything of a vegetable or animal kind that can possibly be applied to such a purpose. Reservoirs, of brick or wood, are dug in the banks of the field, near a canal, into which every refuse substance is put. The principal one has a roof over it, and is plastered, that the contents may not be absorbed into the earth. Besides this principal one, large vases of stoneware are sunk in the ground, at convenient places, for the use of passing travellers. The children and poor people are continually employed in collecting refuse animal and vegetable matter with which to fill up these receptacles; the sweeping of the streets, hair from barbers' shops, offal from the butchers, feathers, horns, and bones reduced to powder, soot, and the deposits of creeks and rivers, are all industriously gathered up and thought sufficiently valuable to be carried a great distance, especially if water carriage is convenient. The dung of all animals is esteemed above any other kind of manure; it often becomes an article of commerce, in the shape of small cakes, which are made by mixing with it a portion of loamy earth, and then thoroughly drying them. These cakes are never applied dry, but are diluted in as much animal water as can be procured. Old plaster is esteemed so valuable a fertilizer as sometimes to induce a farmer to re-plaster an old room that he may fertilize his fields with it. Before manure is taken out of the receptacle, in the field, it is suffered to become half putrefied, in which state it is put upon the plants. Some seeds are put into manure until they have germinated, while others are planted enveloped in their appropriate manure. After the plant has grown a few inches, it is again manured with that which is much diluted. The effect is immediately apparent in an accelerated growth.—*Chinese Repository.*

## FRICTION ROLLERS APPLIED TO GRINDSTONES.



Grindstone.—Fig. 53.

Grindstones are now generally hung on friction rollers, and moved with a treadle, so that the person grinding can thus turn the stone himself without the assistance of another.

These rollers render the movement of the stone very easy, and are so constructed that they can readily be applied to the stone without the aid of a mechanic. Price of rollers $2.50 to $4.00.

Imported Saxon Sheep.—Under this head we had but a moment to give a hasty notice in our last No., page 198, of four Saxon bucks and four ewes just imported from Germany, by Mr. Scoville, of Connecticut. After our paper had gone to press, we had an opportunity of examining these sheep fully, and found that they more than justified all the encomiums we then passed upon them. The staple of their wool is very fine, soft, and even; the fleeces heavy, and so close as to be impervious to rain. Their forms are quite superior, and they show such vigor, size, and constitution, as to give us an entirely different opinion than we had before entertained of Saxon sheep. We really think them a valuable importation, and well calculated to improve American Saxons in size, constitution, and weight of fleece, and as such we earnestly recommend them to the attention of our flock-masters

## NEW YORK FARMERS' CLUB.

The meetings of this Club were respectively held on the first and third Tuesdays of June, and the principal subject discussed was Indian Corn, its uses, modes of cooking, planting, &c.

*Gurneyism.*—Mr. Meigs read a paper from the Revue D'Horticulture de Paris, on the effects of light and shade upon vegetation, by M. Poiteau, from which we extract the following:—

"Shade is necessary for all plants in their infancy, or when they are diseased, or when they have suffered violence by removal. Seeds germinate best in obscurity, and are best when shaded for a few days after. The clouds furnish such shade often, but art uses means to give shade to them. Seeds that must be sown on the surface, or with little earth over them, grow best if shaded for a time. Shade is necessary for such flowering plants as are desired to prolong their flowering and freshness. Shade is important to all plants in slips, and is almost indispensable in order that they may root well. Plants in light purify the air by absorbing carbonic acid and disengaging the oxygen, and they corrupt the air at night by suffering carbonic acid to escape without being decomposed." It is upon this principle that the new and particular kind of manuring called "Gurneyism," depends, which is stated to have been employed with signal success by Mr. Gurney, a farmer in East Cornwall, England. The operation consists in covering grass land with long straw, coarse hay, or other fibrous matter, which is allowed to remain upon the ground until the grass springs through it to the desired height, and then raking it off and spreading it on another portion of the field; the operation being repeated so long as the straw or hay remains sufficiently entire to admit of convenient application.

*Indian Pudding, Hommony, &c.*—A. Barclay, Esq., British Consul, sent two valuable directions for cooking the excellent hommony, which he presented to the club a few weeks ago, which will soon be published in the Report of the Committee on this subject.

Mr. Samuel Allen presented to the club the "Farmers' Own Pudding," made by a lady, the directions and cost of which were as follows:—3 lbs. yellow corn meal, 6 cts.; 1 lb. of beef suet, 8 cts.; 1½ pints of molasses, 8 cts.; 1 lb. of dried currants, 12 cts—Total, 34 cts. Time required to boil it, four hours.

Mr. A. emphatically remarked that this pudding was made by a lady; "because," said he, "a suspicion has gone abroad that the bachelors of this club were monopolizing the rights of the ladies, in cooking the various delicious samples brought forward here. *This is a libel!* The ladies, and not the bachelors, have done all the cooking."

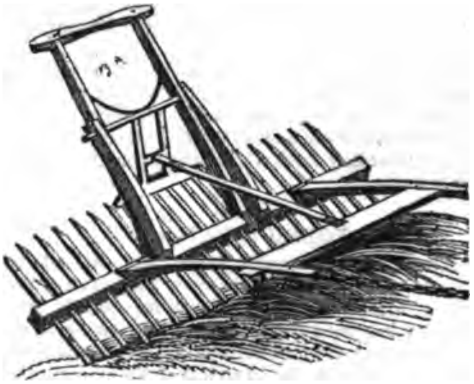
The pudding was then served out to thirty or forty members of the club, and all agreed that it was excellent; whereupon, a unanimous vote of thanks was passed both to the donor and to the lady who made it.

*Kiln-dried Corn.*—Mr. John S. Skinner read extracts from letters from Maryland and Delaware, relating to kiln-drying corn, with the view of showing the necessity of preparing corn for exportation by this process, without which, it is very liable to become heated and musty, so as to render it unfit either for man or beast. One of the writers, Dr. James W. Thompson, states that as "corn is becoming an article of export to other countries, inquiry was naturally awakened to know the best modes of preparing it for transportation. Experience teaches, so far as yet ascertained, that corn intended for exportation must be *kiln-dried*, if not manufactured, in the country which produces it. This process was attempted in Connecticut at the close of the Revolution. The Connecticut millers used the white corn, and produced an inferior article of meal, owing to want of skill in preparing it. The Brandywine millers perfected their kiln and adopted the yellow corn, by way of distinction. From greater proficiency in kiln-drying and manufacturing meal, they soon engrossed the West Indian markets for their yellow meal, and this induced our farmers to grow so extensively here the yellow corn. At the several mills on the Brandywine, there are annually thus dried and ground, some half million bushels of corn. It keeps perfectly good for a long period, and does not appear to be deprived of any of its nutritive qualities by being subject to heat."

The other writer, Mr. James Canby, of Wilmington, Delaware, in speaking of corn and corn meal, as articles of export to England, remarks, that, "after an experience of nearly fifty years, he is of opinion that the kiln-dried Indian corn meal manufactured *here*, will have to be exported in place of the corn itself. The latter he finds invariably becomes so musty when packed for exportation, that it is unfit for all purposes of manufacture. The only method to get the article into England entirely sweet, is to send orders for the *meal* only, and allow manufacturers of good character to fill these orders."

Mr. Charles Henry Hall stated that it was a mistaken notion to suppose that Indian corn would not thrive in Europe. It grows in Spain equal to that of any other country, even better than in ours—but it is solely used there for feeding swine, &c. If the Spaniards had the requisite industry, they could easily undersell us, and supply England.

## THE REVOLVING HAY RAKE.—Fig. 54.



This implement, with a horse, man, and a boy, will rake from fifteen to twenty-five acres per day. It can be used to good advantage even on quite rough ground. Price $7.50 to $9.00.

## CULTURE OF STRAWBERRIES.

When we consider how easily strawberries are cultivated, the delicacy and healthfulness of the fruit, that it is the earliest in the season, and appears without a rival, we are astonished to find how few of the farmers have them in their gardens—they usually doing without them, or depending upon the capricious, wild growth of a small and inferior kind in the fields. To say nothing of the luxury of having an abundance of strawberries during the season, in our own families, it is one of the most profitable fruits cultivated; and many a farmer in this vicinity has made a snug fortune by growing them for the city market. Particular attention is given to this business in New Jersey, where patches will be found in abundance, varying from one to fifteen acres.

They are usually brought to market in small baskets holding one-third of a quart, and the price varies from 3 to 10 cents, according to the season and the time of marketing them. Twenty thousand baskets have been picked from a single acre, and sold at an average price of 5 cents per basket, making a product of $1,000. This is an uncommon case, however, and we presume it might be fairer to assume that eight thousand baskets would be a good average yield per acre, sold at 4 cents, producing $320. The expenses of culture and marketing are heavy; but admitting that they net the grower only one-and-a-half cents per basket, *in the field*, and that he gets only six thousand baskets, it would leave a profit of $90 per acre. Suppose that only half this sum, $45 per acre, is realized, it would still be a good business to farmers in the neighborhood of cities.

The best months to set out strawberry plants in this climate are August, September, March, and April; at the South, we should say, October, November, February, and March. But as it is generally impossible to get plants from the North before March, to send South, they should be ordered for that quarter as early as September, and then they would be certain to arrive there in season. The vines produce few berries the first year, but very abundantly the second and third. After this the fruit rapidly deteriorates in size and quality, and new plantings should be brought into bearing, and the old ones dug up.

We expect soon to be favored with a series of articles, with illustrations, on the culture of strawberries, from a gentleman in this vicinity, who has devoted much time and attention to them, we therefore forbear any further remarks upon the subject for the present.

## FOREIGN CATTLE.

About eight months since, we noticed the following paragraph in the New England Farmer: "The Massachusetts Agricultural Society have recently imported from England and Scotland, one bull and four cows of the North Devon, and a bull and four cows of the Ayrshire breeds; all said to be good of their several kinds, at a cost of $3,000."

It was with great pleasure and satisfaction that we read the above paragraph, and it was our intention at the time to have made some remarks upon it, but such has been the demand upon our columns, that we have not been able to find a place for them till now. This importation, together with a subsequent one by Mr. Webster, of Massachusetts, shows that the good old Bay State is alive to the improvement of its neat stock, and that a reviving interest pervades this as well as many other sections of the country. We trust that while these imported bulls are judiciously bred to native cows, the imported cows may be bred to none but these bulls, or others of pure breed fully equal to them, so that the stock will be kept pure and perpetuated with a view of improving that of the country at large, for generations yet to come, and not be neglected and suffered to run out, as has been the case with pretty much all, heretofore imported. We admire the liberality of the Massachusetts Agricultural Society; $3,000 for ten animals—$300 each—is a pretty high price though to send abroad these times for neat cattle; and we hope, before any more importations are made, that the Societies and people of this country will cast about a little, and see if they cannot supply themselves equally well at home, and at a much cheaper rate; for we hold it the duty of every good citizen to expend his money in his own country, when it is possible to get anything like the value for it, rather than send abroad. Upwards of four years ago we came to the conclusion, after a pretty thorough personal inspection of the different breeds of neat cattle in England, that we only wanted now and then a very superior bull or so, to give fresh blood to our stock, and that we already have about as good materials for all necessary improvement as Great Britain can furnish us; and to this opinion we still adhere.

Let us now look about a little, and name a few enterprising persons who have imported and are breeding Devons and Ayrshires, saying nothing of the numerous and wide-spread Durhams, and the choice breeds of Herefords scattered over the country.

Mr. Patterson, of Maryland, has a herd of pure Devons, the originals of which were imported upward of thirty years ago, from the best herds in England. These he has continued to breed with great success ever since, improving their blood with continued fresh importations whenever it could be of the least advantage for him to do so. His herd numbers more than one hundred, all thorough bred, and we believe as good animals as England can produce. He raises many steers annually of the purest blood, and most faultless forms, for the simple reason that the demand for his young bulls is far short of the increase. So fastidious has he been in his breeding, that for several years after he commenced, he steadily refused to part with a single animal to breed, until he had got his herd to suit him in their general excellence, and he had made his third trial of imported bulls from England, the last one, from Bloomfield's herd, the same from which the Massachusetts bull was taken. At length, when he opened his herd for sale, he placed the choicest of them, except the selections for his own immediate breeding, at the moderate price of $100; and neither more did he demand, nor less did he ask. Would it not have been quite as well for the Massachusetts Society to have purchased of

Mr. Patterson at $100 each, rather than in England at $300?

Mr. Colt, of New Jersey, has some beautiful Devons; the Messrs. Hurlbut, of Connecticut; Mr. Washburn, of Otsego County, this State, has a fine herd imported by Mr. Rotch, and crossed in with Mr. Patterson's stock; Mr. Allen, of Black Rock, has a choice herd, made up from Mr. Patterson's stock and recent importations from England. Messrs. Garbutt & Breck, of Genesee County, have been breeding superior Devon cattle for years, and last October advertised a public sale of 40 to 50 head. With all their efforts, they could only sell 14 head, at an average price of $60 each. The Massachusetts importation cost $300 each, as before remarked; and those who have seen both, say, they are in no respects superior to Messrs. Garbutt & Breck's, when for the same money they could have got five for one!

A few years since, a young Englishman imported into the western part of this State, a very superior young bull and two heifers, pure North Devons, from the herd of Mr. Davy, of North Moulton, Devonshire, one of the best breeders of this sort of stock in England—his animals generally taking the first prizes wherever exhibited. These he found it difficult to dispose of at $100 each. They fell into hands that appreciated them, and are now highly valued. A majority of the cows composing the above herds, are good milkers, giving from 16 to 22 quarts per day, making rather more than an average proportion of butter, thus showing the superior quality of the milk.

Now, as to Ayrshires. Mr. John P. Cushing, of Watertown, near Boston, some ten years since, or more, imported eight or ten cows, and one or two bulls, which he ordered to be selected from the very best breeds, without regard to cost, in Scotland. These he has bred ever since, and, with his accustomed munificence, has *given* away, as we understand, several young animals every year, both to Agricultural Societies, and to individuals, for the benefit of the public. Of this liberality, the Massachusetts Society have, very unwisely, as we think, declined to avail themselves.

Capt. George Randall, of New Bedford, some years ago, imported several Ayrshires of great excellence, from which he has bred many young animals of equal pretensions, and sold at moderate prices. Mr. Griswold, of Connecticut, and Mr. Patten, of New York, have also imported the best animals that money could procure; several other individuals in different parts of the country have done the same. In September, 1844, we saw standing in the Ayrshire quarter of the State Cattle Show, at Poughkeepsie, an excellent bull, imported into Montreal two years previously, and sent there for sale, with full pedigree, and approved descent, for which the owner could not obtain $100! Two or three recently imported cows were there also, which could have been bought for that sum each. And yet, with all these fine animals before the public, from several different herds of unquestioned excellence, the Massachusetts Society sends to Scotland, at an expense of $1,500, to buy five Ayrshires, in no way superior to what they could at any time obtain at home for one-third the money.

Let us be understood. We have no wish, in the slightest degree, to discourage the promotion of the highest excellence in all that appertains to our agricultural advancement. We advocate improvement in its greatest extent, and in nothing more than in our domestic animals. Numerous individuals in our country, with a spirit and liberality nowhere surpassed, have invested thousands of dollars in the importation of foreign cattle of the most approved quality, and from them have bred herds equal in value, and in all desirable points, to their originals. But how have they been rewarded? In nine cases out of ten, they have suffered the deep mortification of finding their efforts and their enterprise unappreciated, by those who, approving their value, are about to adapt them to their own uses; and of seeing them, like this instance of the Massachusetts Society, "pass by on the other side," telling them in effect, that this stock, though of acknowledged excellence, has deteriorated in their hands, and that they have no confidence in American-bred cattle? Is this fair? Is it just?

We insist upon it, that there are as good and as careful breeders in America as in England, for all practical purposes. We know several cases where imported stock have actually become improved in their progeny by American breeders; although we consider that those extraordinary instances of individual skill in occasionally producing uncommonly fine animals, have not been developed here as frequently as in England. But let it be remembered, that such animals as astonish Englishmen or Scotchmen at home, do not come to America. We cannot afford to pay for them yet. But we have got the blood of these superior animals, and will soon be in the way of producing it equal to themselves.

Let us now sustain each other—at least, until our domestic demand shall carry prices up to something like a compensating amount for the heavy capital already invested in our improved stock; or until the reduced cheapness on the other side the Atlantic shall be a sufficient reason for passing by animals and herds of equal excellence on this.

## LIME APPLIED TO VEGETABLE MATTER, SHOULD BE NEWLY-MADE, AND COMPLETELY SLACKED.

Newly-made lime, according to Dundonald, from its power of destroying, or as it were burning vegetable and animal bodies, is termed caustic. When applied to organic bodies, containing moisture, it rapidly destroys their adhesion, or continuity of parts, and disengages from them hydrogen and nitrogen, forming volatile alkali. The residuum will be found to consist of charcoal, and of a combination of lime with the phosphoric and other acids, forming saline matters, which are nearly insoluble. The above effects are produced by the application of lime to peat, or to soils containing much vegetable matter; part of which is dissipated in a gaseous state, and part combines with the lime, forming insoluble compounds, which cannot promote vegetation, until brought into action by other saline substances, either on the principle of superior affinity, or on that of the double elective attractions.

Hence, when hot, or newly-calcined lime is broken into pieces of a small size, and mixed with peat, moderately humid, heat is disengaged, and that heat, by the slacking of the lime, when it is applied in too great a proportion, is so increased, as completely to reduce the peat to charcoal, and to dissipate, in a gaseous state, all its component parts, excepting the ashes, part of the carbonaceous matter, and such a portion of the carbonic acid gas generated in the process, as is absorbed by the lime, by which that substance is made to return to the state of a carbonate. No benefit can, therefore, arise by this method of preparing peat with lime, the object not being to destroy and dissipate in a gaseous state the component parts of the peat, but to make such a combination with the lime, and the gas generated in the process, as will, on the application of the mixture to ground, promote the growth of plants.

This object is best attained by mixing newly-made, and completely slacked lime, with about five or six times its weight of peat, which should be moderately humid, and not in too dry a state. In this case, the heat generated will be moderate, and never sufficient to convert the peat into carbonaceous matter, or to throw off, in the state of a gas, the acids therein contained. The gases thus generated will be converted into volatile alkali, which will combine, as it is formed, with the oxygenated part of the peat that remains unacted upon by the lime applied for this special purpose, in a small proportion. By this mode of conducting the process, a soluble saline matter will be procured, consisting, in part, of phosphate of ammonia, the beneficial effects of which on vegetation will be too apparent to need further comment.

Inattention, or ignorance of these important facts, has probably, in many cases, defeated the wishes of the farmer in the application of this preparation, which is particularly recommended as a top-dressing to grounds under pasture. The proportion of the lime to the peat here given, should be carefully attended to, and the mixing of the two substances together should be performed under cover, in a shed or outhouse constructed for that purpose, as too much rain, or a too great exposure to air, will prevent a due action of the lime upon the peat.

The success of most operations, but more especially of those of a chemical nature, greatly depends upon a regular and due observance of circumstances apparently trivial.

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**Canada Gypsum.**—Mr. Moyle, of Canada West, recently addressed a communication to the Council of the Royal Agricultural Society of England, on the subject of the results obtained by him with the cretaceous gypsum, to which he had referred in a former letter; with an opinion, that, to the use of this cheap dressing, he attributed the great fertility of Canada, and a statement that on one of his own 50-acre fields, chiefly wheat, he had, last summer, grown 40 bushels to the acre; the land of his farm having been through the usual rotation of crops for the nine years previous, and the portion on which this wheat was grown never having had any dressing whatever, excepting one bushel per acre annually of the plaster (gypsum) in question.

## DISSOLVING BONES IN SULPHURIC ACID.

The discovery of Dr. Liebig of dissolving bones in sulphuric acid for the purposes of manure, has been so clearly established by the experiments of the Duke of Richmond and other agriculturists in Britain, that nothing seems now to be wanted but some economical plan of introducing it into the ordinary routine of farming. Mr. Pusey, in a paper on this subject, in a late number of the Journal of the Royal Agricultural Society of England, points out, in a popular way, what Liebig's theory is, and in what the peculiar active principle of bones consists.

"Bones, it is well known," he says, "have been long used in England for the turnip crop; still, though their success on some soils was certain, the cause of that success was by no means so clear; for fresh bones are made up of oil, of jelly or gelatine, and of phosphorus united with lime. But when the oil was boiled out of the bones they still acted, and when the jelly was burnt out of them, they still acted even more rapidly—so that without at all saying that either the oil did nothing, or the jelly did nothing, it became clear that the peculiar active principle of bones is the phosphorus combined with the lime; and, as the quantity of the lime is insignificant, that it is the phosphorus—a pale substance like wax, which has the singular property of giving a faint blue light when in the dark. This curious substance, it appears, which may be bought for a few pence, at any chemist's, is one of the main elements with which nature works in compounding seeds and roots serving for the food of man and of beast.

"In bones, however, the phosphorus, in an acid state, is compounded with lime in such a proportion as to form a salt called phosphate of lime, which water does not dissolve, and which therefore acts slowly upon the roots of crops to which it is applied as manure. Dr. Liebig knew that oil of vitriol (*sulphuric acid*), if mixed with bones, would take to itself a part of this lime, leaving behind a new salt containing at least a double portion of phosphorus, and therefore called *super*phosphate of lime, which salt being dissolved by water, he hoped would afford a more digestible food for the young turnip, and the result has answered his expectations. Such is the simple history of this great discovery."

Mr. Pusey then proceeds to describe his mode of making a compost of dissolved bones for drilling, and details an experiment in which raw bones, Fothergill's superphosphate of lime, and the compost of dissolved bones were pitted against each other, as follows:—

"I formed a flat heap of dry mould about ten feet across, the surface of which was scooped into a hollow basin, capable of holding twenty bushels of ground fresh bones. A little water was poured on, but I have since omitted the water. Sulphuric acid, to the amount of about half the weight of the bones, was gradually poured into this basin. They soon begin to heat, seething violently, and sending out a great deal of steam, with a peculiarly offensive stench; presently the whole mixture wears the appearance of boiling blood, and swells so much from the escape of gas, that the workmen, stirring it with their hoes, must take great care to prevent it from bursting over the sides of the earthen basin. In a short time, however, the cauldron becomes quiet, and the bones disappear altogether, except a few fragments; so that the heap may be shovelled together, and might be drilled on the same day, but this would not be advisable, as some small lumps, still half liquid, remain in the compost. On the first occasion, the earth and dissolved bones were left mixed together, and though perfectly cool when so left, I learned, on returning, after six weeks' absence, that a second heating had soon taken place, and found that the heap was hot still. The offensive smell was gone, and was replaced by the musky odor of rotten dung. I mention this circumstance because I am anxious to draw to it the attention of chemists. This second fermentation may be that of the animal matter contained in the bones, and may bring out its ammonia; if so, it will be a question whether it be desirable thus to give time for the formation of ammonia before the manure is applied; or whether it be better to drill the compost at once, allowing the ammonia to be produced under ground, and so be supplied to the young plant more gradually.

"The compost thus made was tried in July on some light land, very much exhausted, and naturally unkind for the growth of turnips. The trial ground was about two acres. On one part the compost of bones and acid was drilled at the rate of 4½ bushels of bones to the acre; on another part, bones at the rate of 20 bushels to an acre; and I added, on a third part, a manure (purchased from Mr. Fothergill) under the name of superphosphate of lime, at the rate of 2 cwt.

"The bones and acid took the lead of the bones, and kept it throughout. I am bound to add that the superphosphate prepared by Mr. Fothergill not only surpassed the bones, but also that which I had manufactured myself. Possibly the quantity of Mr. Fothergill's may have been too large for compari son; but though I think my own method of preparing superphosphate a convenient one, when the bones are at hand, it appears also that if we can ensure the delivery of a genuine article, it will be still better to buy this manure ready made. In this trial there could be no doubt that all the three forms of bones acted strongly, for the crop grew vigorously where they were used, while on spots where they were purposely omitted, it could scarcely be said to grow at all; and though, from late sowing, and from being left too thick, the turnips had not time to come to maturity, the result was quite decisive for our present comparison. About a fifth of an acre was weighed on each piece, with the following results:—

| Manure per acre. | Cost. | Yield of turnips. |
|---|---|---|
| 1. 20 bushels of bones | 55s. | 44¾ cwt. |
| 2. 4½ bushels of bones with 100 lbs. sulphuric acid | 22s. | 49½ cwt. |
| 3. 2 cwt. Mr. Fothergill's superphosphate... | 14s | 53 cwt. |

"The saving of immediate expense by Dr. Liebig's discovery is certainly very great, if we take it only as from 55s. to 22s. per acre on the turnip land, which should be one quarter of the whole average of a light arable farm. The trouble of preparation is slight, and of its application next to nothing; for Mr. Hornsby informs me that his turnip-drill will distribute equally as small a quantity as 15 bushels over an acre; as then the 4½ bushels of dissolved bones do not require to be mixed with more than ten or fifteen bushels of earth, and his drill holds 25 bushels, the use of this compost would not require more than one stoppage for drill on each acre.

"Mr. Fothergill's preparation, if the quantity assumed be correct, was still more successful, and, having tried it elsewhere, I am enabled to speak more highly of it. A neighbor, to whom I supplied some, found that 2 cwt. of this superphosphate, costing then 14s., answered better on his land for turnips than 2½ cwt. of the best Peruvian guano, for which he had paid 32s.

"Having tried the method described above, I venture to recommend it to farmers; but I consider it by no means a perfect prescription. It is not clear whether the second fermentation should be allowed to take place or not. It is by no means clear that the proportion of acid (one-half the weight of the bones) might not be diminished. It is doubtful whether the amount of bones, 4½ bushels, be the right dose per acre. It is very likely that phosphorus should not be administered singly, but should be combined with potash, as Dr. Liebig advises. These are points which I beg to recommend to our members for future inquiry.

"Such are the assured advantages to be derived to the turnip crop by the solution of bones, but we may further hope to see the use of superphosphate extended even to corn crops. Theory certainly requires it; for, according to Boussingault, a crop of four quarters of wheat to the acre draws from that acre of ground at least 30 lbs. of phosphoric acid. Experience countenances it, for though bone manure is usually applied to the turnip crop, its effects, as is well known, are seen in the following corn crops. But further, a direct experiment, too, has proved its success. This was made by Mr. Pemberton Leigh, upon wheat, the product of which was as follows:—

| One acre. | Cost. | | | Bushels. |
|---|---|---|---|---|
| No manure | £0 | 00s. | 0d | 29 |
| Rape-dust, 5 cwt | 1 | 12s. | 6d | 38 |
| Urate, 6 cwt | 1 | 12s. | 6d | 38 |
| Dung, 30 loads | 4 | 10s. | 0d | 40 |
| Guano, 3½ cwt | 2 | 4s. | 0d | 40 |
| Superphosphate, 6 cwt. | 2 | 4s. | 9d | 53 |

"The increase of 24 bushels, that is, three quarters of wheat per acre, by the use of superphosphate, is enormous, equal in fact to the whole average yield of many farms, and could hardly be expected again; but though we must not hope for so large a return in money as eight pounds for two, this manure is so cheap that a much smaller increase in the wheat crop would pay for its use."

As the statements herein quoted from Mr. Pusey appear to be well founded, we think the experiments are worthy of a trial in this country. The expenses attending them would be comparatively trifling, considering the benefits that might be likely to result therefrom. The cost of ground bones in the neighborhood of our cities and large towns, would not exceed $1 per hundred pounds, and that of sulphuric acid (oil of vitriol), 3 cents per lb.

## PROPERTIES OF INDIAN CORN.

In our last volume, we noticed Dr. Jackson's Final Report on the Geology and Mineralogy of New Hampshire, with a promise of making copious extracts in some future numbers. We now fulfil that promise by giving the following condensed account of the properties and adaptation of Indian corn, and several other grains, trusting that it will be no less acceptable to those of our readers at home who have not seen Dr. Jackson's Report, than to our trans-Atlantic brethren, who have of late directed their attention to this important subject.

Some interesting facts will be noticed in the variable proportions of phosphates in different varieties of the same species of grain, and the great preponderance of them in Indian corn, beyond what is contained in the smaller grains, like barley, oats, and wheat; a fact that seems to explain their peculiar properties as food for animals; the more highly phosphatic grains being more likely to surcharge the system of adult animals with bony matter, producing concretions of phosphate of lime, like those resulting from gout.

Perhaps that stiffness of the joints and lameness of the feet, common in horses fed too freely with corn, may be accounted for by this preponderance of the phosphates. Young animals cannot fail to derive more osseous matter from corn than from other food.

The gluten and mucilage contain nitrogen, an element essential to the formation of fibrous tissue, muscles, nervous matter, and brain.

• The oil is ready-formed fat, easily convertible into animal oils by a slight change of composition.

Starch is convertible, also, into fat and into the carbonaceous substances of the body, and, during its slow combustion in the circulation, gives out a portion of the heat of animal bodies; while, in its altered state, it goes to form a part of the living frame. Sugar acts in a similar manner, as a compound of carbon, hydrogen, and oxygen, in the formation of fat of animal bodies.

From the phosphates, the substance of bone and the saline matters of brains, nerves, and other solid and fluid parts of the body, are, in a great measure, derived.

The salts of iron go to the blood, and there constitute an essential portion of it, whereby it is enabled, by successive alterations of its degrees of oxidation during the circulation through the lungs, arteries, extreme vessels and veins, to transport oxygen to every part of the body.

Buckwheat and oats contain the least proportion, and may be raised on soil which is not fully supplied with phosphates.

Beans and peas are highly charged with the phosphates of lime and magnesia, while they contain but very little starch. They also contain salts of iron, and both the cotyledon and the germ are charged with all these salts; but the epidermis, or skin of the bean or pea, is free from them.

The use of the oil in corn is obviously to prevent the rapid decomposition of the grain in the soil, and to retain a portion of food until needed by the young plant, and is always the last portion of the grain taken up. It serves to keep meal from souring readily, and it will be observed that a flint corn meal will keep sweet for years, even when put up in large quantities; but the Tuscarora meal will sour in a short time. The latter is the most digestible grain for horses, and is soft, but it is of little value for feeding swine. It is a good kind of grain for rapid cooking, for its meal is quickly boiled or baked.

Oily corn makes a dry kind of bread, and is not adhesive enough to rise well, without admixture of rye or flour. Rice corn is so dry that alone it will not make bread, but is dry like sand.

Oily grains are excellent for fattening fowls, and the rice corn, both from its size and oily nature, is admirably adapted for them.

Corn is sometimes raised for the manufacture of whisky, and the oil is saved during the fermentation, since it separates and rises to the surface. I have been informed that 100 bushels of corn yield from fifteen to sixteen gallons of oil. It is made on the borders of Lake Ontario, and has been used in the light-houses on the lake.

According to my analyses, the proportions of oil in Indian corn vary from six to eleven per cent., the latter being the yield from Canada corn; while rice corn contains still more, but has not been fully examined.

Southern corn has more starch and less oil than our northern flint corn, and is much softer and better food for horses, though not so fattening for swine or poultry, and is, when ground, more apt to become sour.

When Indian corn is hulled by means of potash ley, the oil next to the epidermis of the grain is converted into soap, and the epidermis is detached. The caustic alkali also liberates ammonia from the mucilage around the germ.

Sweet corn appears like an unripe grain. Its origin is unknown; but it appears to have been used by the aboriginal inhabitants of New England, anterior to the settlement of the country by the Pilgrims.

It is a remarkable variety of corn, containing an unusually large proportion of phosphates, and a large quantity of sugar and gum, and but little starch.

Its excellence for food in its green state is well known and appreciated, and having stalks which are short and slender, they of course take up a less proportion of the saline matters of the soil.

The colors of Indian corn depend on that of the epidermis, or hull, and of the oil; the latter, when yellow, showing its color through a transparent epidermis; while if the hull is colored and opaque, the grain presents the same color.

In the Rhode Island white flint (a favorite grain in that State), the oil is transparent and colorless, and the epidermis is likewise free from color and is nearly transparent; hence, the meal is white, and the quantity of oil being large, it is less liable to ferment and become sour than some other varieties, and is in very good repute.

The yellow color of the golden Sioux, a twelve rowed kind of corn, is due to the color of the oil.

Brown corn has a darker color, dependent on the combined colors of the oil and epidermis.

Red and blue corn owe their lively hues to the colors of the epidermis, and not to the oil.

## GARDENING.—No. 5.

*Civil Causes affecting the Distribution of Plants.*—By the art of man, plants may be inured to circumstances foreign to their usual habits. The means used for this purpose are acclimatization and culture. The former of these is most easily effected, in going from a hot to a cold climate, in herbaceous plants; because it often happens that the frosts of winter are accompanied with snow, which shelters the plant from the inclemency of the atmosphere, till the return of spring. Trees and shrubs, on the contrary, are acclimated with more difficulty, because they cannot so easily be protected from the cold, owing to the greater length of their stems and branches. This is also effected in some degree by sowing the seeds of successive generations, and by the difference of temperature obtained by different aspects or situations. An individual plant may be rendered more hardy, or more delicate, by local or other causes; but the power of the species to resist cold or heat, drought or moisture, remains the same.

"Some plants which constitute the objects of gardening and of agriculture, have, time out of mind, accompanied man from one end of the globe to the other. In Europe, the vine followed the Greeks; the wheat, the Romans; and the cotton, the Arabs. In America, the Tultiques carried with them the maize. The potato and the quinoa are found wherever have emigrated the ancient Condinamarea. The migration of these plants is evident; but their first country is as little known as that of the different races of men, which have been found in all parts of the globe from the earliest traditions." (*Humboldt.*)

The general effect of culture on plants is that of enlarging all their parts and altering their qualities, forms, and colors, though it seldom, if ever, alters their original or primitive structure. The effect of culture upon our garden vegetables may be noticed in the Brassica tribe, in the increase of size, and in celery and the carrot, in improvement of quality. The peach in its wild state is poisonous; but when cultivated, it becomes one of the most delicious of fruits. The influence of civilisation, in increasing the number of plants in a country, is great, directly, by introducing new species, and indirectly, by acclimatizing and final naturalization, by the influence of winds and birds in disseminating seeds. The Romans introduced into Italy the fig and almond from Syria; the citron, from Media; the peach, from Persia; the pomegranate, from Africa; the apricot, from Epirus; apples, pears, and plums, from Armenia; and cherries, from Pontus. The vine and fig are said to have been carried to France by birds; and in like manner the orange is thought to have been naturalized in the south of Italy. The greatest refinement in culture consists in the successful formation of artificial climates for the production of flowers and fruits belonging to a totally different climate from that in which the work is carried on. Thus by the means of hot-houses the delicious fruits of the torrid zone are brought to perfection almost within the arctic circles.

"Casting our eyes on man, and the effects of his industry, we see him spread on the plains and sides of mountains, from the frozen ocean to the equator, and everywhere assembling around him whatever is useful and agreeable of his own or of other countries. The more difficulties he has to surmount, the more rapidly his moral faculties are developed; and thus the civilisation of a people is almost always in an inverse ratio with the fertility of the soil which they inhabit." (*Loudon.*)

*Characteristic Distribution of Vegetables.*—Plants, like animals, live in two classes—social and anti-social. Associated plants are more common in the temperate zones than in the tropics, where vegetation is less uniform and more picturesque. In the temperate zones, the frequency of social plants, and the culture of man, has rendered the aspect of the country, in a measure, monotonous. Under the tropics, on the contrary, all sorts of forms are united; thus cypresses and pines are found in the forests of the Andes of Quindiu, and of Mexico; and bananas, palms, and bamboos, in the valleys. But green meadows and the season of spring are wanting in the south, for nature has reserved gifts for every region. The languishing plants, which, from a love of science, or from luxury, are cultivated in our hot-houses, present only a shadow of the majesty of equatorial vegetation; but by the richness of our language, we paint those countries to the imagination, and individual man feels a happiness peculiar to civilisation. The features of many plants are so obvious and characteristic, as to determine at once their native countries. Asiatic plants are remarkable for their superior beauty; African plants for their thick and succulent leaves; and American plants for the length and smoothness of their leaves, and for a sort of singularity in the shape of the flower and fruit.

"A tissue of fibres more or less loose—vegetable colors more or less vivid, according to the chemical mixture of their elements, and the force of the solar rays—are some of the causes which impress on the vegetables of each zone their characteristic features." (*Humboldt.*) L. T. TALBOT.

## ITALIAN MODES OF COOKING MAIZE.

WHILE journeying in Italy some years ago, I was delighted with the admirable modes in which the *polenta* or Indian meal is prepared in that country. I think, with a recent correspondent to the London Gardener's Chronicle, that the only fault of the Italian method is, that one is apt to eat too much, as he says,—"I am ashamed to say it has been my case at the Hôtel de la Couronne, at Brides, near Moutiers. The landlord is renowned for his culinary skill; but, could he only make, or had he never made any other dish than *Timballe de Polenta à la Savoyarde*, that alone should render him immortal."

"Take Polenta (Indian meal) perfectly dry and fresh, moistened with boiling water, and perfectly mixed by stirring with a wooden spoon until the mass is reduced to a thoroughly smooth paste, of consistence to admit boiling. Keep it just below a boiling temperature until, by tasting, you find it to be perfectly homogeneous; about 10 minutes suffice; stir the whole time. Remove it from the fire, and add as much fresh butter, strong brown gravy, grated Parmesan cheese, and as much garlic as suits your palate; grated ham is an excellent adjunct. Simmer

10 minutes, stirring the whole time; pour or turn the mass into a well-buttered mould; serve with brown gravy. If you publish this, you will merit a statue in the new Houses of Parliament, for I defy the world to produce its equal as a farinaceous dish. 'Twould make a skeleton corpulent.—*Polenta gnocchi* are also capital. Stir in hot water, and simmer till of a consistence which just allows it to run from the pan. Pour the mass on a board, and when cold cut it into diamonds of an inch square. The thickness of the paste should not exceed three-eighths, or half an inch. Put the squares close to each other in a dish, but they should not touch. Pile layer above layer, a little butter and grated cheese between each; or, if you wish to eat it as a sweet or pudding, pounded cinnamon, sugar, or treacle. The butter, cheese, or sugar, prevent the bits and layers sticking to each other. Brown the whole by fire above and below, or bake in an oven, or steam until the cheese be softened, or the butter and sugar incorporated in the paste. The said gnocchi, made with common flour, are equally good. It is the Roman popular dish, and no osteria's sign-board ever wants GNOCCHI FAMOSI inscribed upon it. It is so general and common, that it forms the proverb invariably, should you officiously seek to interfere in the property belonging to another, or remonstrate on its abuse—*Ognun può far della suo pasta gnocchi.* Every one is at liberty to make gnocchi of his own paste, *i.e.*, anybody may do what he likes with his own.

AN OLD TRAVELLER.

## CHEROKEE ROSE HEDGE.

YOUR number for March is before me, and I hail it with more than ordinary pleasure. I see friends Solon and Coke both are out. These two are a whole host within themselves,—secure a continuance of their pens, and you may rely on Northern and Southern and middle men being pleased.

Coke does not write the whole truth in objecting to fencing for his country; he has made a little mistake in his calculation, but to his own disadvantage. He never took to figures, and well may he remember when our old mathematical preceptor gave him a sound threshing for preferring oratory to figures. I know Coke well, and have received many a drubbing in his presence for lack of hard sense. He says, " a mile of our worm-fence occupies half an acre of ground." Let us see; a mile is 1,760 yards in length, an acre 4,840 square yards, my fences have a 5-foot worm, then the lap added will be over 6 inches, we may say 6 feet, and always some lost outside of the line of fence, which, if only a fraction over 2 feet, would be an acre lost to every mile of fence; and take fencing as it is through the country where the " Virginia worm fence" is used, and I hazard nothing in saying there is a loss of one acre to every mile. This swells the loss of capital to $500,000, the interest on which would buy enough food for Coke and for such others, to feed a large portion of his state. I will not interfere further with his subject, as I conceive he has a fair claim to it in the South. As to this part of the country, we are not yet without great aid from the range,—we can kill hogs or cattle from the range that are in fine condition. There are many portions of this country that pay every dime the worth of their meat, butter and milk, by feed, fencing, and loss.

Friend Solon is down upon us " like a pile of brick." I will not dispute with him about the dead Cherokee, or nondescript rose, nor deny that the hedge of Mr. Charles B. Green, of Madison County, did die; but I will assure him that the past winter has been more severe than any I have known here; and except the cold weather in February, 1835, I have never seen the equal in the South. Well, the rose here is alive and doing well. I have seen it in Warren and only one other place in Hinds, not a dead one or a killed stem—whereas, the American agave six years of age was killed, many stems of nearly twelve varieties of the Bengal rose were killed, and many plants that have heretofore lived out were killed—I lost several of the pomegranate for instance. I would like for Coke to make inquiries, and will refer to a hedge laid down very near 30 years ago, on the west and north lines of a Mr. Nott's premises in South Carolina, in latitude 34° N. I am confident that Coke can hear of hedges in South Carolina that are 30 to 50 years old. If this will not satisfy friend Solon then I will quit trying to convince the " old un." I am aware that friend Solon stated precisely what is true, and as I cannot make any excuse for my brother planters, I will only say it is pure carelessness that these unsightly gaps exist. The cuttings are generally early to make leaf, but the difficulty lies in cleaning the hedge row before the plant has made root. Negroes, you know,—well, you may know it,—are a don't care set of creatures, they chop with the hoe so near as to disturb the cuttings, and a great many die; the best way to do, is to send a faithful hand to give the first and second working, paying particular direction to perform the work well, and not to mind the time; hoe the plants not too close, and pull up the fine grass, or cut up that which has root enough to loosen the earth by pulling with a knife. I can lay down a mile of hedge with four hands, a mule and plow to help me, in a day. My plan is—move the present fence out, if possible; this fence row is rich land generally—if this cannot be done, manure the hedge row. I then throw up a ridge with four or six furrows of the turning plow, having laid off a row to bed to; I then harrow down fine, with an iron-tooth harrow; I then stretch a line—one hand with a dibble makes holes slanting under the line, a small chap comes after and drops, another hand inserts the cuttings some six inches deep, and presses firmly on the land above with the foot, and goes on to the next. My plants are put in about one foot apart. Two hands can cut about as fast as one can plant, with a pruning knife, a neater and more workmanlike way. I have sat on the ground and cut for a day at a time, in preference to chopping with a hatchet. My notion is, if one do these things right; he will take care of them when done. I have set this year over a mile, and think nine cuttings out of ten are now alive. I will clean out, this week, and earth as much as they will bear. I do not like setting them on ditch banks; there is cost in ditching, if no advantage in the ditch to compensate.

I have put out some 800 yards of the microphylla rose, for inside fencing, and find the small twigs on a ditch bank have died, at least 8 out of 10; these I have heretofore succeeded best with in garden culture.

I cannot succeed with strawberries; have tried Hovey's, Kean's, Iowa Mammoth, Lagrange, and several other kinds. If I keep them clean they die the first summer, if I do not clean them, the weeds and grass make a case of them the first fall—must I therefore conclude that the strawberry will not do in this climate, when my friend W., within five miles of me, has them on a little space, where they have been for five years, and *I know*, not only grows enough for himself, but to give an old neighbor a quart bowl full at a sitting? Must I likewise say the old-fashioned pink, the pheasant eye and the carnation, will not do in this climate, because some worm or the ant destroys mine yearly? I see them elsewhere. Must I conclude that this climate will not suit the dwarf box, because I was shown a small parcel, "the last of $300 worth," which afterwards died? Not so, for I find no difficulty in growing a cutting two inches long.

As to this rose for hedging—the great difficulty is to keep it in due bounds; frequently a shoot, a vine, or runner, as you may choose to term it, will shoot out 10—aye, 20 feet. But in the name of all that is reasonable, what fencing can we make that is not objectionable? I believe a Cherokee hedge can be safe to turn all stock, in four years—the rail fence being there, and *that cost* not counted, for it must be there anyhow—and not to cost over two weeks' labor of two hands per mile, say, even counting hire at $12 per month, and found, &c.—$15 per mile. And it cannot cost more for the next 25 years, to keep it properly pruned and trimmed in, than to keep up a post and rail fence made out of anything save cedar and red cypress. I presume two hands can attend to a mile a day, say, twice a year. The cost is a mere trifle, for it can be done when too wet to hoe or to plow.

I have seen the Cherokee rose ever since I can recollect, and never heard of its dying out until latterly, and I think it is very much like my growing strawberries—don't feel interest enough in it to do it properly. My reason for saying so is, I can find strawberries in the woods not a foot from my fence, and if I would plant them on mould and give the shade of peach trees, or even the north side of a fence, I think that I would succeed. I know of some who lose all their peach trees, and if you would see some of our peach orchards, you would wonder that the peach trees did not die when first planted—at the very idea of undergoing the mutilation by axe, plow, hogs, cattle, &c.

M. W. Philips.

*Edwards' Depôt, Miss., April 6th*, 1846.

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**New Compost Manure.**—Mr. Alexander McDonald, of Eufaula, Ala., informs us that he has recently applied to a thin sandy soil, on pine land, 40,000 bushels of a compost prepared from pine leaves and blue marl, both obtained on his farm, having previously been exposed in a small enclosure where his cattle had been penned. The mode of application, and the result of his experiment will be made known as soon as the amount of his present crops is ascertained.

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## SCRAPS FROM MY NOTE BOOK.—No. 3.

*Mr. Cockrill's Sheep.*—This is the ninth of April (1846), a clear bright morning, but the ground is frozen stiff, and so it was one year ago this day, but it was not so where I then was, 500 miles south, but there it was cold enough to kill nearly all the peaches in the Ohio valley, and much other fruit, and some wheat.

These reminiscences are now called to mind, because this is the anniversary of my visit to the "*Tennessee Shepherd;*" a title which some of the readers of the American Agriculturist need not to be told belongs to Mark R. Cockrill.

Mr. Cockrill's sheep walk is at and near his residence, seven miles west of Nashville, the drive to which is over one of the fine smooth Macadamized turnpikes which lead out of that city of rocks in every direction.

He was born on the banks of the Cumberland River, near the place where he now lives, some fifty-seven years ago, at which time all the uncultivated land in that region was filled with immense cane-brakes, intersected here and there with buffalo roads and Indian trails, upon which some of the early settlers paid a higher toll than we do now upon these paved ones. Mr. Cockrill is one of those western woodsmen that in his young days could outrun an Indian, or outclimb a bear. He is medium size, spare built, "smart as a steel trap," with a great flow of pleasing conversation, and unbounded hospitality, and in whose family the visitor cannot but feel at home and comfortable. He owns sixteen hundred acres of land, mostly very rough limestone hills, in places almost, and occasionally, quite bare of soil; and a small tract of very rich river bottom (interval) land. Fifteen hundred acres (counting the bare rocks), and including the woodland, are in grass, the most of which is Kentucky blue grass. He usually plants about 50 acres of corn, which affords him as much as he needs. The corn land is exceedingly rich natural soil, on the banks of Richland Creek, near the Cumberland.

The land occupied by Mr. C., is composed of twelve different farms, which he has bought up since 1835, at which time there were not ten acres of cultivated grasses upon the whole; and if the farms ever were good, it was long time ago, neither are the buildings worth bragging about. The fact is, he has been so intent upon providing pasturage and accumulating acres, that with the personal attention that he pays to his flocks, together with the care of 2,000 acres of cotton plantations in Mississippi, upon which he works 135 hands, he finds little time to devote to ornamental improvement.

When I was there, his flock, as I stated in the March No., consisted of 1,400 fine-woolled, and 600 long-woolled, and, all things considered—that is, quality of wool, weight of fleeces, size and healthiness of sheep, long life and productiveness of lambs, I think cannot be excelled in the United States. He also had forty head of very fine Durham and grade cattle, none of which were less than three-fourths blood, and some of them were very valuable milkers:—30 jennies, breeding from a fine blood horse—one of the jennies is the biggest animal of the kind I ever saw—keeps about 30 high-bred horses and brooding mares, upon which he serves his big jack, and raises fine mules, one of which at work in his team is about 17 hands high, and heavy in proportion. His stock is all first-rate, except hogs, and not one of them will he keep on his place—because hogs will eat lambs. And if you ask why he don't keep them shut up in the pen, I can tell you that restraining the liberty of a hog in that despotic manner, is contrary to the *free* institutions of the Southern and Western States.

His flocks were at grass when I was there, but in the great drouth then prevailing, his land was overstocked and the feed poor; but he intended to shear his long wool in a few days, and start them for Mississippi, which would give him more room and feed at home. Mr. C. assured me that he takes care of this farm and stock with four field hands, assisted occasionally by some female house servants. But the wonder is accomplished by the never-tiring vigilance of the active master. I have never seen a shepherd more devoted to his business. There are few old sheep that he does not know by name on description, and can name the quality of the fleece. And he pointed out to me several ewes which I judge were Saxon Merino, that were part of five hundred lambs got by one ram in 1826, which I think a very extraordinary performance. It was accomplished by keeping the ram up, and very judiciously fed, and serving him only once to each ewe, which was then immediately removed. Some of these nineteen-year old ewes had fine healthy lambs by their side.

The foddering season where Mr. Cockrill lives, which is about latitude 36°, does not average over three months a year. He feeds hay, millet, oats in sheaf, corn fodder, and a moderate supply of Southern corn, by one gill a day, which Mr. Allen says in his note to my article in the March No., is not so oily as Northern corn. At any rate, Mr. Cockrill finds it good feed for his sheep, and is well paid for feeding a moderate supply, by an increased quantity and quality of wool, besides the advantage of having the ewes in fine condition at the lambing season, which is in April, and after the grass has got a good start. A visit to the old shepherd is not only pleasant but profitable. I have scarcely spent a day more satisfactorily than while riding one of his beautiful blood horses over his place, and examining his flocks, and listening to the interesting and instructive conversation of one of so much experience and good sense.

Mr. Cockrill has a number of sheep which he drove when he moved his flock from Tennessee to Mississippi. In 1835 he sold his cotton plantation with the intention of quitting the business, and following that of wool-growing solely, and brought up his flock and drove them to Lexington, Ky., in search of a home, which he did not find to suit himself, until he returned to his own native hills on the Cumberland. Notwithstanding all this driving in a warm climate and hot summer, he takes pride in the fact that some of his sheep on exhibition, won the prize cup, over some of the pampered flock of Henry Clay and other wool-growers of Kentucky, that fall. His original fine-woolled sheep are from a Saxony importation of 1824. His fine clip of 1844 averaged 62½ cents a pound, and was sold for shipment to France. He has some sheep which he has made by crossing Saxony and Bakewell together, that for long silky fleeces exceed anything I have ever seen. All the long-woolled sheep are sheared twice a year. In Mississippi, about 5 or 6 degrees farther south, both fine and coarse-woolled sheep are sheared twice a year. Mr. C. still prefers that country to grow wool, but not for his family residence, and he says what I have often said, that no man can succeed with sheep who depends upon his negroes—the master himself must be the slave. And this is why he keeps his flock in Tennessee instead of Mississippi; not on account of the sheep-family, but his own.

The grasses cultivated for hay are timothy, orchard and blue grass, and clover. The soil, as I have said, is strong limestone, and supported a natural growth of large timber, of oak, elm, sugar-tree, walnut, ash, hackberry, poplar, hickory, &c. Fencing timber is already becoming scarce, but whenever they shall learn how to build stone fences, they have the material in great abundance. Mr. C. trains his sheep not to jump, and if they were not so, his fences would not restrain them. The object Mr. C. has in view in sending the long-woolled sheep to Mississippi, instead of the fine-woolled ones, is, that he intends to feed his negroes largely upon the heavy, fat mutton of this breed, and use the wool for negro clothing. By shearing them twice a year, their fleeces do not become burthensome, and the gain upon shearing twice a year instead of once, he finds to be fully 15 per cent. Mr. Cockrill keeps his sheep in moderate sized flocks, in summer as well as winter, with the rams always separate.

I mentioned his manner of feeding in the March No., upon the ground, without rack or trough; and I am well satisfied that it is not the slovenly way that some of your Eastern readers will be inclined to think it is. It is the natural way for the animal to pick up its food from the ground, and by the manner of feeding in alternate lots, so that the hay is laid upon the ground before the sheep are let in, they do not waste it. There is another advantage, the seed does not get in the wool as it does from racks.

It must not be supposed, because the land of Mr. C. is hilly and rocky, that it is never muddy. You, Mr. Editor, can endorse for me when I say that no land in the world can exceed some of the steep side hills of the West, that are apparently half stone, for deep sticky mud. But by shifting the feeding ground and giving plenty of room, the sheep can be kept out of the mud. There is a great error prevailing in the West, in my opinion, in confining sheep in winter in too close quarters. Give them a chance to range and browse and get their noses to the ground. They will be more healthy. Mr. Cockrill thinks it a great folly to keep a large capital in Tennessee invested in "woolly heads," when "woolly backs" afford so much better returns of interest. In fact, he is well satisfied, and so am I, that the raising of cotton so far north, will not pay any interest upon the capital invested. Indeed, taking the United States altogether, it is doubtful whether it does.

Mr. Cockrill has had a large experience in both kinds of business—raising cotton and wool; and has a very large capital now invested in both branches, and he is confident that wool-growing in Mississippi would be better than cotton, at present prices. His figures are, that he owns 2,000 acres of first quality of cotton land in Madison County, Mississippi, and with his 135 negroes, he made in 1844, 1,035 bales, not quite 8 bales to the hand, which is more than an average crop, and which will not average over 5 cents a pound, is $20 a bale, exclusive of freight, commissions, and stealings. Besides the land and working hands, there is a large sum invested in teams and implements, and supernumerary negroes, besides a great outlay for medicine, clothing, and provisions, over and above what is produced upon the plantation. In fact, some plantations fall short of 8 bales to the hand, and make no clothing and provisions, but buy everything. I have stated the quantity of land and flocks and hands upon the sheep farm. These 2,000 head of sheep will produce $2,000 worth of wool a year at least, besides all the profit of the other stock mentioned. It is easy to see which capital pays the best interest. Why, then, does he continue the cotton business?—simply, because he has not been able to get rid of it. He sold out when the business was much better than it is now, but the purchaser failed, and he had to take back the whole again. If Mr. Cockrill would tell us his experience, it would be far more valuable to your readers than these scraps and items which I have picked up by the way.

I have some more scraps of interesting matter in my notes which I have taken during my travels that I may be able to give you at a future day.

Solon Robinson.

### REMEDY FOR THE WEEVIL IN WHEAT.

As no person has answered the inquiries of your correspondent, Mr. Lewis, Vol. 4, page 377 of the Agriculturist, relative to the prevention of weevil in wheat, I feel that I should not act liberally to withhold some facts from him and the public, which have come under my own observation. As I am largely indebted to the Agriculturist, and its able correspondents, for much valuable information on agricultural subjects, I am willing to contribute my mite to the common stock, *pro bono publico.*

In the middle part of Georgia, the black weevil infests the wheat more or less every year, unless precautions are taken to prevent them. Sunning the wheat three days, spread thin on a scaffold, will prevent them effectually. Put the wheat up while it is warm from the heat of the sun. It is best to turn the hogsheads or boxes, in which it is kept, over a bark fire, and heat them, so as to destroy all the eggs of the weevil about them. If the boxes are too large to handle or turn over, place a stove, or a small oven in them, in which make a bark fire, so as to heat them, taking care to prevent accidents from the fire. Some persons put lime, ashes, salt, the leaves of the pride of India, and many other substances, to prevent the weevil from injuring wheat; but my experience is decidedly in favor of sunning. It is well to examine the wheat occasionally, after it is sunned, and if there should be any appearance of the black weevil, fan the wheat all over again, and then sun it well the second time. It is seldom necessary to do this more than once, if the wheat is kept perfectly dry.

The white weevil attacks wheat only in large stacks, in houses when in the straw, and in the chaff after it is threshed. To prevent them then, it will only be necessary not to expose the wheat to them in either of the situations mentioned above. Let the wheat remain in shocks until it is ready to be threshed, fan it immediately after threshing, and then let it be sunned, and put away in a dry place, and securely covered. The white weevil is also common in the middle section of this State, though not so injurious to wheat as the black weevil.

*Butts Co., Georgia, May 18, 1846.* X.

### MANAGEMENT OF HONEY BEES.—No. 1.

The art of managing bees in this country is but very imperfectly understood, so far as profit, health, and productiveness are concerned.

It is generally supposed that bees require little or no air, and if they prove unproductive, or are lost from the ravages of the bee-moth, it is a mere matter of chance, wholly beyond the control of the owner.

I now propose giving the result of my own personal experience in the management of bees for some years, on Long Island; and from the happy effects of my course of procedure, I think my remarks will not prove wholly void of interest, or advantage, to those who are unsuccessful in this branch of amusement and profit.

The first desideratum is the *dimensions of the hive.* There is a certain size, of which hives must be made, in order to ensure success in its greatest degree. If we make them *too small,* the bees are more liable to perish from the effects of an unfavorable winter, and from the ravages of the bee-moth, in consequence of the *weak* condition of the stock. If we construct them *too large,* the bees will require *two* years to fill the hives, and increase by swarming is much lessened, and in some cases entirely prevented for a series of years. Now, in order to illustrate this position, I will observe that hives are used in this country from 8 by 12 inches, to 12 by 18 inches. If we use the smaller size, the quantity of bees that the dimensions of the hive admit of wintering over, is too small to do well, as it has been thoroughly tested, that strong stocks winter better, and consume *less* honey than *weaker* ones! This may appear strange to the uninitiated, yet it is true, for the reason that the bees are less exposed, in strong stocks, to the various winter changes of weather, to which our climate is subject. A few warm days in winter will put the whole of a small stock in motion, whereas a strong one is much less affected; and when once aroused from their lethargy, they consume double the quantity of honey that they do when in a state of quietude. But setting this matter entirely out of the question, there is yet a good reason for having larger hives. Bees in their natural state throw off, generally at first, swarms of a size that nature teaches them are best adapted to prove prosperous;

and it matters not how large you furnish hives, where they swarm, which is seldom in very large hives, the quantity of bees is not in proportion to the size of the hive, but in accordance with the laws of nature. Now, to come to the point with as few words as possible, I have found, from practical demonstration, that hives *one foot square* in the clear, conform more to the natural requirements of bees than any other. It is a consideration with apiarians who make a business of the sale of bees, to make their hives much less than this, as thereby they increase their profits. I have an instance of the deplorable effects of this, in the case of a neighbor, who went to great expense in building bee houses, which he filled with "patent hives," from a well-known apiarian of New York, on the principle of 8 by 10, or somewhere about this size, at an enormous cost, and now, where are they? From six hives procured several years ago, he has only *one* now remaining, and when I last saw that one, "solitary and alone," throwing out an occasional pale sickly bee, in quest of food, while the air of my premises was literally "vocal with music," and the furious dashing *whiz* that resounded about my ears as I approached them, giving indications of power, vigor, and prosperity—I say, when I saw this great difference from positions only a few rods distant, I grieved that darkness should yet hover over the apiaries of thousands who seem indifferent to their success, or rather consider success as a matter of chance rather than of science.

Having spoken of the effects of *too small* hives, I will now give my experience in *too large* ones.

In 1842 I had a few hives made 12 by 18 inches, in the clear. (In speaking of the size of hives, I refer to the body of the hive for the dwelling of the stock, without any regard to what are termed *supers* for storifying.) I found that it took the bees two seasons to fill them, and when filled they did not swarm at all some seasons, for this reason, that however great the quantity of the bees in the summer and fall there is in a hive, they dwindle away before spring, to a certain quantity, and thus leave a vacant space of some six inches, or more, at the bottom of the hive, to fill up with the increase of spring, while smaller hives are full, and are throwing off swarms in profusion. Not only does this retard swarming, but the queen bee, in whose power all swarming lies, surveys the space of her tenement, and if she finds that the whole room can be occupied by her vassals, she will either lay the foundation of no new queens, or when they are brought into existence, she will destroy them as fast as they appear, and no swarm is ever thrown off without a queen; hence, large hives are not only unproductive as regards increase of swarms, but there will not as much honey be stored in the *supers* in hives 15 or 18 inches deep, as in those of less depth, for the reason of the greater obstruction to which the workers are liable in ascending to the *supers;* this being the case, it would naturally suggest to our minds that broad and shallow hives would do better than those that are about square, such as I consider best. This would be the case so far as storifying honey is concerned, but it is important that the bees should be kept as compact as possible, to secure them against the sudden changes of winter weather, and also to be in better condition to resist the approaches of the bee-moth, than an extended surface would admit of.

Well, in regard to my large hives, I saw the fallacy of such dimensions, and conceived the idea of cutting them off in April last, while occupied with bees, which operation I performed personally with a common handsaw, the *modus operandi* of which I will give in a succeeding chapter, as well as of some other difficult and perilous performances. I say *perilous*, for, when a thousand bees dart with furious ire at one's hands or face, a small displacement of any part of his shield, by accident, would be worse for him than the charging of the Mexican batteries, as did the indomitable Capt. May and his valiant dragoons!

After cutting these hives off, I found that they contained but a very few more bees than hives of 12 by 12, of last year's swarms, and these stocks in hives of that size, actually swarmed this season first. This result, with various other proofs, rendered it conclusive to my mind, that hives very near *square* are best, and that 12 by 12 inches in the clear, when managed on my plan, is as near correct as can be.

In my next I shall treat of the *position* of the apiary—*ventilation* of hives—the *bee-moth;* how guarded against, and the fallacy of the "*patent hive*" system, as adapted and recommended by some of our apiarians. T. B. MINER.

*Ravenswood, Long Island, June 1st, 1846.*

## DOMESTIC FISH-PONDS.—No. 2.

*Modes of Stocking the Ponds with Fish.*—The ponds may be stocked from the nearest rivers, lakes, or ponds. If the fish are to be brought from a great distance in tubs or casks, the water must be changed every four or five hours, and always kept more or less in motion, particularly for trout. By adding ice, however, the time of changing the water may be prolonged. The fish, if possible, should be taken in nets, and be put instantly into the tubs for transportation; but if they be caught with lines, care should be observed not to wound them more than can be helped in extricating them from the hook.

It has been recommended to stock a pond by collecting ripe spawn and carrying it in water mixed with grass, and speedily placing it in the shallow and sandy part of the pond, in order that it may receive the influence of the heat and light of the sun; but how far this mode would succeed in bringing the spawn of the white fish and of the Mackanaw trout from the Great Lakes to the waters near the seaboard, nothing short of an actual experiment can determine. In attempting to introduce these fishes into Lake George, Champlain, Winnipisiogee, or other waters of great depth, or to introduce tench and carp from Europe into artificial ponds in the United States, the surest mode of success, it is thought, would be, to select with care, a small number of each kind of fish, just before their spawning season arrives, and convey them as speedily as possible, in large cisterns or tanks, paying particular attention to regulate the temperature of the water, and change it as often as circumstances may require. That the common carp (*Cyprinus carpio*), originally from the central part of Europe, can be introduced into this country, is proved beyond a doubt, as Capt. Henry Robinson, late master of one of the Havre packets, of Newburgh, N.Y., imported from France in 1831 and 1832, six or seven dozen of these fish, and put them into some ponds on his estate, where they have bred freely every year since. They were brought in small parcels of two or three dozen each, about two-thirds of which perished on their passage. For a few years past he has put from one to two dozen, every spring, into the Hudson, near his residence, and they have multiplied so fast, that the fishermen frequently take them in their nets. It is stated that, in Mr. Robinson's ponds, which are small, they acquire a length of three or four inches the first year; but owing to the limited space in which they have to move, they do not ordinarily attain a length of more than ten or twelve inches. In the Hudson, however, they considerably exceed that size. They breed twice a year—the middle of May and of July.

The common perch (*Perca fluviatilis*) of Europe is so very tenacious of life, that it could readily be imported into the United States, as it has been known to survive a journey of nearly sixty miles, when merely packed in wet straw!

The successful removal of several species of fish from one body of water to another, in this country, is known with certainty, as may be seen by perusing a paper by the late Dr. Mitchill, in the third volume of the "Medical Repository." He states that, in 1790, Uriah Mitchill, high sheriff of Queen's county, N. Y., and himself, went in a wagon to Ronkonkoma Pond, in Suffolk county, a distance of about forty miles. "The object of our journey," he says, "was to transport alive, some of the yellow perch (*Perca flavescens*) with which this body of water abounds, to Success Pond, in the town of North Hempstead. We took about three dozen of those which had been wounded most superficially by the hook, and we were so fortunate as to dismiss all of them but two into Success Pond, in a condition vigorous enough to swim away. We were enabled to do this by filling a very large churn with the water of Ronkonkoma Pond, and putting so few fishes into it that there was no necessity of changing it on the road, and afterwards driving steadily on a walk the whole distance, without stopping to refresh either man or horse. In two years, these fishes multiplied so fast, and became so numerous, that they might be caught with the hook in any part of the water, which is about a mile in circumference." Another instance is recorded in the fortieth volume of Silliman's "American Journal of Science and Arts," by a correspondent from Otisco, N. Y. "About 15 years since," says the writer, "Mr. Robert Kinyon, then living in the village of Amber, on the east shore of Otisco Lake, in Onondaga county, determined to make an effort to introduce into its waters, *yellow perch* from the Skaneateles, in the waters of which they abound; *pickerel*, from the cluster of lakes or ponds that constitute the extreme northern sources of the Tioughuioga branch of the Susquehannah river, in some of which this fish is very plentiful. Neither of these fishes had been seen in the Otisco; but suckers, an occasional white fish from the lakes, and the delicious speckled trout abounded in its waters, as well as the smaller fishes common to all our lakes. In the Skaneateles, only three miles distant, were found the perch and the salmon trout, both strangers to the Otisco. A dozen perch of medium size were caught with hooks, put in a barrel of water, and transported from one lake to the other without difficulty. The third year from their removal, the Otisco seemed to be filled with them; and I have frequently heard it remarked, that in that, and the succeeding year, the perch, both for size and number, exceeded that of any year since in these respects. . . . . A quantity of pickerel were the same season introduced in the same way; but they have not multiplied. Indeed, we have never heard of a fish of this kind being taken in the Otisco."

*Change of Residence of Fish from Salt Water to Fresh.*—The introduction of salt-water fish into fresh ponds or lakes, has often been attempted both in Europe and in America, and in a few instances has been attended with success. In the London "Quarterly Journal of Science, Literature, and Art," for 1826, several species of fish are mentioned, as having been transported from salt water into fresh, and that their flavor had been improved by the change. The *sole* became twice as thick as a fish of the same size from the sea. The *plaice* also increased materially in thickness—in some cases, appearing three times as thick as when grown in salt water. The *barse* likewise turned much thicker, and improved in delicacy. The *mullet* almost ceased to increase in length, but enlarged in breadth, and presented a much deeper layer of fat.

In the same journal last mentioned, for the year 1824, we learn that the smelt (*Osmerus eperlanus*) had been kept four years by Mr. Meynell, of Yarm, in Yorkshire, in a fresh-water pond, having no communication with the sea, and there "grew well, and bred as freely, as under other circumstances." In the "Philosophical Transactions," for 1771, we find the following extract in a note, by Daines Barrington, then Vice President of the Royal Society, to a letter from John Reinhold Foster, "On the Management of Carp in Polish Prussia."—"I have been informed by Sir Francis Barnard (the late Governor of New England), that in a large pool which he rented not far from Boston, and which had not the least communication with the sea, several of these fish (American smelt, *Osmerus viridescens*?) originally introduced from salt water, had lived many years, and were, to all appearance, very healthy." As Governor Barnard's residence was not far from Jamaica Pond, in Roxbury, Mass., there can be but little doubt that the "large pool" mentioned in the above-named note, referred to that body of water. Dr. D. H. Storer, in reporting to the Boston Society of Natural History, in 1840, on some smelts taken from this pond, said, "The specimens, you perceive, are considerably smaller than those purchased in our market—all that I have seen from this pond, for the last year, are smaller than those commonly met with. From the quantities yearly taken, however, they must have *increased considerably in number*, and their *flesh has lost nothing of its sweetness or flavor*, as I have repeatedly had opportunities of testing."

Among other instances in which fish from the sea have been made to reside in fresh water, may be mentioned the successful introduction of the European cod, a few years since, into the lakes of Scotland, where, it is said, they propagate freely, but, unfortunately, deteriorate in flavor. I have recently been told that the American cod (*Morrhua americana*) was introduced from the sea, at Hampton, a year or two ago, into Lake Winnipissiogee, in New Hampshire, where they have already begun to multiply, and it is thought will succeed well. It will also be seen by referring to vol. 3, p. 259, of the American Agriculturist, that Mr. R. L. Pell, of Ulster county, N. Y., was attempting to "fresh-waterize" some American shad (*Alosa præstabilis*) which he had caught in the Hudson, in front of his farm, and speedily placed in one of his ponds. These fish are said still to exist in their confined habitation, and have begun to breed; but how far the experiment will prove available, in point of profit, yet remains to be known.

*New York, June* 10, 1846. D'Jay Browne.

## THE ALPACA.—No. 2.

On no two points, according to our informant, do the early writers on Peru so perfectly agree, as in the number of species of the Andes sheep, and the purposes to which the Incas applied them. They state, as already observed in our last No., that there were four kinds, two tame and two wild—a fact too well established to admit of a doubt; and, as our avowed object in laying these sketches before the public, is to throw light, and elicit the inquiry, whether the rearing of the alpaca is applicable to the soil, climate, and rural industry of the United States, we shall not enter into these nice distinctions, but regard them as coming within the sphere of the practical zoologist, rather than under any effort of ours.

The Alpaca or Paco of Cuvier.—Fig. 55.

*Geographical Distribution.*—The Alpaca (*Camelus paco*, of Linnæus; *Auchenia glama* v. *alpaca*, of Cuvier) in its natural habitat, in common with its congener the llama, abounds on the Andes, where its absence or presence is observed, as the summits of these vast mountains become elevated or depressed. Thus it ranges considerably below the line of perpetual snow, from Chili to New Granada (but not Mexico), without reaching the isthmus of Panama, at which point the Cordillera has a less elevation than is suited to its nature and wants.

The point nearest to the equator at which Andes sheep were originally noticed, is said to be Rio Bamba, situated in latitude 1° 38′ S., about ninety miles southwest of Quito, and not far from the snow-capped mountains of Chimborazo. The town stands 11,670 feet above the level of the sea, to which elevation the temperature of the air corresponds. In this tropical region, and consequently on a spot where excessive heats might be expected during the month of August, the two Ulloas remarked that, towards evening, the thermometer regularly fell two or three degrees below the freezing point, and next morning rose eight or twelve above it, which would indicate that, at certain elevations, no land is exempt from the dominion of frost.

Although, from the point above mentioned, across the equator, the climate becomes milder, and vegetation more abundant, it has been remarked that the wild species do not pass the line, but continue stationary there—a phenomenon for which some Peruvian writers have endeavored to account, by alleging, that the *ycho* or *ichu* plant, a coarse grass, and the favorite food of both the tame and wild species, does not extend further towards the north.

It has been remarked by physiologists, that the size of animals is usually adapted to the nature of the country which they are born to inhabit. This is not the case in the present instance; and whether we consider the great extent of the Andes mountains, their stupendous forms, the immense elevation of their summits, or the severity of the climate prevailing upon them, the more shall we be astonished at the diminutive size and delicate frame of the quadrupeds dwelling in those secluded recesses. The woolly natives, nevertheless, possess a hardiness of constitution, and a peculiarity of structure, admirably well adapted to the nature of their birth-place. There, during half the year, snow and hail fall incessantly, whilst in the higher regions, as before noticed, nearly every night the thermometer falls below the freezing point, and the peaks, consequently, are perpetually covered with an accumulation of ice. The wet season succeeds, when flashes of lightning traverse the clouds in rapid succession; the thunder rolls through the firmament in rumbling and prolonged peals, followed not by showers, but by torrents of rain, which, after collecting, fall headlong from the rocks, or pour into the crags and chasms, leaving the slopes bare of soil, and spreading desolation wherever they pass, till at length the stream is lost in some lake, or serves to swell the head waters of a river.

It is astonishing that the temperature of the air on mountains so peculiarly situated, and exposed to the full blaze of a vertical sun, should be so much chilled as almost to present the desolate aspect of the arctic regions; and yet such are the tracts of land upon which the Andes sheep abound and thrive—the flocks, more especially those of alpacas, being still, comparatively speaking, considerable in the vicinity of Rio Bamba, where the inhabitants evince a great aptitude for woollen manufactures, and carry on a trade in the raw material. Of alpaca and vicuña wools the women knit stockings, colored cloaks, and also gloves equally ornamental. *Ponchos* or men's surtouts, are woven in colors, and of so delicate a texture, as to be worth $700 each. They are also used throughout Peru as a riding dress, by the wealthiest ladies.

Pursuing their researches, the Spaniards ascertained that, at the period of their arrival, llama and alpaca flocks on the coast were kept as far as the fortieth degree of south latitude, and inland as far as the territory of the Araucanos, in which space they occupied the middle declivities of the Andes, facing the west, wherever population was concentrated. Alonso de Ovalle, a Jesuit, and a native of Chili, in his "Historica Relacion del Reyno de Chili" (Rome, 1646), says that in the capital of Santiago, llamas formerly had been used to carry wheat, wine, and other articles, and also to bring water from the river to the houses.

Along the extended range above named, the tame breeds were left to browse. The sheltered part of a hill, the bottom of a dale, or the furzy heath, were their favorite haunts. There they picked up their scanty and scattered food, under the lower boundary of the snow, ascending as it disappeared from the surface. Sometimes they fed on the mosses which fringe the rocks, and plants growing on the hillocks, or would descend the slopes and enter the *ichuales* (pastures of the ichu plant); while in the higher and more secluded regions, reaching nearly to the summits of the lofty chain, as well as on both sides of the double line which it assumes in Peru, there dwelt the vicuña and guanaco in a wild state, and far from the abode of man, hunted only for their flesh and skins.

The comparatively small size of Peruvian sheep, as well as of the vegetable forms by which they are surrounded, clearly indicates that the climate of the Andes is not favorable either to animal or vegetable growth. It has also been remarked, that there the human species is subject to the same rule; man decreasing in bulk and stature in proportion as he dwells near the mountain summits. In Peru, the winter sets in towards June, and is severely felt on the highlands, where the snow remains upon the ground six, and in some places eight months in the year.

As soon as the narrow and green strip of land bordering upon the Pacific is passed, the traveller begins to ascend the slopes; and when he attains the first table-land, observes a complete change in the climate and the appearance of vegetation. Except in the *yungas*, or hollows, where an alluvial soil has been collected, and where the Indian plants his sugar-cane, banana, and esculent roots, the country wears a naked and barren aspect.

Here, at an elevation of from 8,000 to 12,000 feet above the level of the sea, the Peruvian tends his alpacas and llamas, allowing them to range at the foot of the snowy cliffs called *punas*, or to wander on the *paramos*, or heaths, where they derive subsistence from the moss and lichens growing on the rocks, or crop the strong grasses and tender shrubs which spring up upon the flats, favored by moisture. On these commons the animals may be said to shift for themselves, exposed to all the rigor of the elements, and receiving no food from the hand of man. The shepherd only visits them occasionally; yet such are their gregarious habits, that the members of one flock seldom stray away and mix with another, being kept in a good state of discipline by the old ones, which know their own grounds, and become attached to the place of their nativity, to which they return at night, evincing an astonishing vigilance and sagacity in keeping the young ones together, and free from harm. Hence there is no need of their being marked; and so great is the intelligence of some *punteros*, or leaders of a flock, that a more than ordinary value is, on this account, attached to them by the owner, part of whose duties they perform.

The most valuable breeds are said to come from the central provinces; and here it may not be irrelevant to observe that there are two varieties of alpacas, differing in size, figure, and fleece. The breed called *coyás* is the most diminutive, and is esteemed for the smallness of bone and symmetry of form. It is chiefly confined to the Cusco range of mountains, more particularly to that part of it intervening between the ancient city of the Incas and Haumanga. It is thought to be a remnant of the old royal flocks, or those once owned by the priests of the sun, who are represented as having the choicest breeds. That territory was besides the principal theatre of agricultural operations, the seat of power, and the centre of Peruvian civilisation. It was from this breed that the beautiful white and brown alpaca (fig. 56) owned by Mr. Cross, late of the Surrey Zoological Gardens, was obtained.

THE ALPACA OF MR. CROSS.—FIG. 56.

This specimen was originally brought from Lima, where it had been a pet; and the perforations in its ears, in which ornamental rings had been placed, were still visible. Its graceful attitudes, gentle disposition, and playful manners, were particularly attractive. Ladies frequently caressed it as if it had been a child. Although kept in the unwholesome atmosphere of a crowded city, pent up in a close room, and unavoidably fed on unsuitable diet, it nevertheless attained the usual age; thus affording as satisfactory an example of hardihood as could be wished.

## A GOOD GRAZING DISTRICT.

I do not know a better grazing district than the southern tier of counties of New York, and more particularly the western portions of them. Owing to the mistaken policy of the Holland Land Company, who were the original proprietors of many millions of acres, in holding them at high prices on long credits, and for which most of the lands were taken up in small farms by actual settlers, and more or less improved and cleared; and the subsequent opening of the immense government tracts at the West at low rates, and the easy communication thereto, thousands of these hardy pioneers, finding themselves with a large debt and its years of accumulated interest on their shoulders, from which immediate extrication seemed impossible, sold out for a mere song, and, in frequent instances, availed themselves of what personal property they possessed, and then emigrated to the great western "*Dorado.*"

Some years since, the Holland Land Company sold out to different parties all its remaining land possessions, together with an immense amount of expired land contracts, at low prices, many of which had already reverted to them, and ever since have continued to revert, as the circumstances of the contending parties in possession, and the demands of the wholesale purchasing parties, have proved unsatisfactory. The consequence of all this is, that in the counties of Wyoming, Allegany, the southern portion of Erie, Cattaraugus, and Chautauque, are thousands of farms, portions of which, from one to two-thirds, are cleared up, and can now be purchased at from $5 to $10 an acre, which are penetrated by good roads, and in the neighborhood of mills, schools, churches, and near to railroads and water communications; abundantly supplied with clear, sparkling streams; delicious springs; a most healthful atmosphere, and delightful scenery; and for the growth of grass, oats, all the root crops, and the hardy fruits, it cannot be surpassed. I have stood on the rich wheat farms of the low country, which cannot be purchased for less than $40 to $50 per acre, and looked out upon those green and vigorous hills, only a few miles distant, where thousands of acres, with quite comfortable buildings, in an humble way, can be bought at $6 to $8 per acre, and wondered why they were not bedotted with flocks of sheep, and herds of cattle, which can nowhere thrive better than on the sweet grasses of those elevated grounds. I have visited them often, and nowhere have I ever seen fatter or healthier cattle, nor better and more highly conditioned sheep, or with heavier fleeces. Whether the finest kinds of Merino or Saxony will thrive as well on those moist hill sides and elevations, or in the deep sheltered valleys, as on the more gravelly and drier low grounds of other regions, I cannot say; but so far as tried, they are equally healthy. And for long-woolled sheep, I know, from abundant evidence of their trial, that no country can exceed it. The soil is strong (lacking only in lime), and the grass in the greatest abundance. I have seen hay produced in the meadows of a whole farm at the rate of two tons per acre; corn forty to fifty bushels; oats thirty to forty; and rutabaga and carrots a thousand bushels per acre. Why should not our extensive flock-masters appropriate this broad region to themselves? It only requires their capital and their sheep to make it one of the richest and most productive of our wool-producing counties. Long wool is rapidly becoming an article of extensive consumption in our factories; its production requires little labor; close attention, care, and experience, are only demanded. Its revenues are liberal; its expenditures small; and we hesitate not to say, that after the wide prairies and the ridgy openings of the far West are all examined, thousands will return to the green and health-giving hills of New York, and plant their flocks on their surface.

I do not hesitate here to put it on record, that the "sequesteral counties," as they have so often been termed, of this great State, now that they are certain to be penetrated by that immense work, the Erie railroad, which is forthwith to be prosecuted by the vigorous enterprise of our great commercial city, will, at no distant day, become the favorite wool and dairy region of the North.

I may at some fitting time resume this subject, and speak of the more eastern counties lying on the same great lines, prefacing my suggestions, however, with the remark, that I hold neither lands, railroad shares, nor a particle of any interest whatever connected therewith, other than what appertains to the prosperity and growth of the great agricultural welfare of our community. Western.

## THE CANADA THISTLE, BURRWEED, AND SPURRY.

The Canada thistle (*Cnicus arvensis*) is one of the most pestiferous weeds that are found amongst us, and has, of late years, increased so rapidly as to become an object of considerable alarm among our farmers. It springs up among the grain crops, and its sharp spines are so formidable as to cause great difficulty in reaping grain in which the thistle is growing. It spreads rapidly, too, in grass lands. If suffered to ripen, its downy seeds are borne by the winds in clouds, in every direction; and as they readily take root, and as the plant likewise is perennial-rooted, that is, springs from the old root it is difficult to keep it down. Much might be done, however, if farmers were unanimous, but the plant is in many cases permitted to grow and ripen by the sides of the roads, whence the seeds are scattered over the fields. Repeated mowings in summer will cause the roots to wither and die; and if each one would take the trouble to cut off the flowering heads of those that grow in the roads of his own farm, the plant would be prevented from seeding (*a*).

The vile plant, however, of which I have just been speaking, is not so bad as the burrweed (*Galeopsis tetrahit*) that is spreading over our fields and ruining our farms. This is a vigorous plant, growing from a creeping root, which is, I believe, perennial; though the stalk is annual. It has a tall branchy stem, with leaves like those of a nettle; it bears a pretty white labiate flower, succeeded by large burrs or seed vessels, covered, when ripe, with hard, sharp prickles, defying the touch. It produces seeds in most prolific abundance, which are unfortunately scattered before our grain is cut; and as it spreads from the root as well as the seed, there appears to be no way to eradicate it but pulling up every plant. But in doing this, the root often breaks, and leaves a part in the ground, to become the progenitor of a new stock of weeds. Besides this, wherever this spinous weed grows with wheat or other grain, a great deal of the latter is obliged to be wasted, as it cannot be reaped; for no man can put his hand into a bed of burrweed with impunity. In short, though unknown among us a few years ago, it is now spreading with alarming rapidity, and laughs at our efforts to control it.

Another pernicious weed is likewise becoming an object of some attention; though it has not yet attained the notoriety of the former. I allude to spurry (*Spergula arvensis*), so abhorred by some of our farmers, that they have given it the name of "devil's gut." It has a long, but very slender stem, trailing on the ground, with nodules, about an inch apart, at each of which the stem forms an angle. The leaves and flowers are inconspicuous; the seed vessels are numerous, globular, and about as large as peas; the stems trail a long way from the root, and twine and entangle one with another. It chiefly infests new land; but I suppose the seed has been imported with other seeds from Europe. There, I have understood, it is sometimes sown for the sake of its herbage, which affords an abundant and nutritious food for cattle (*b*). These three are the worst weeds that infest our crops. We have many others; but they do not spread so rapidly as these, and can in some measure be kept under.

Canadian Naturalist.

*Compton, Canada East.*

(*a*) As the Canada thistle abounds in fertilizing salts it may be advantageously plowed in after the manner of clover, buckwheat, and other green crops.

(*b*) In Germany and Belgium, the seeds of spurry are sown in fields of stubble after the grain has been harvested, to supply a tender bite for sheep during winter. It may be sown and reaped in eight weeks either in autumn or spring. It is said to enrich the milk of cows so much as to render the butter more excellent; and the mutton fed upon it is preferable to that fed on turnips. It is greedily eaten by hens, dry or green, and is supposed to cause them to lay a greater number of eggs. In the United States, however, it is doubtful whether it would pay the expense of cultivation.

## COLIC IN MULES.

In your last No., page 187, in an article signed Gaston, the writer complains that his mules die of colic. I will merely say to him, that mules are but little subject to disease, except by inflammation of the intestines, caused by the grossest exposure to cold and wet, and excessive drinking of cold water after severe labor, and while in a high state of perspiration. Crushed corn and cob is the best food for them; neither rye nor wheat straw should be given them while working, as it renders them unfit for labor, but in times of rest it is a good food. They have been lost by feeding on cut straw and corn meal.

In breaking them, they should be mated with a swift walking horse, and if treated kindly, will be gentle; but if treated inhumanly, they will treasure up their revenge for years, until an opportunity offers to gratify it. They are called obstinate by *mulish drivers*, and by none else. No opinion is more erroneous than that mules can thrive on brambles and briars. They may live, but cannot thrive. A mule requires one-third less of nutritive substance than a horse, but his *quantum* he must have; or, like other animals, he will starve; and though not so much of an epicure or glutton as man, he is as much opposed to scanty doses in feeding as his master.

James Boyle.

*Annapolis, Md.*

## A REVIEW OF THE MARCH NO. OF THE AGRICULTURIST.—No. 3.

*Method of Fastening Horses.*—Very sensible, S. Y.,—short and to the point; I like such articles. But I don't like your big heavy headstall and blinders and check reins. Check reins are wicked; blinds are useless; and breeching too, nine times out of ten; and in fact the least possible quantity of leather about a harness is the best—and Mr. Editor, I am not convinced by your argument in favor of attaching a weight to the halter. The truth is, I like that "Southern barn," where a horse can "take his ease" in his own stable, "with none to make him afraid." [So do we; and our correspondent will find box and stalls, as in the Southern barn, often recommended in our paper; but all cannot have them, and therefore we give the most comfortable method we know of, to fasten horses in their stables.] It is but too true, that most of our fashionable usage of this most noble of domestic animals, is but a refined kind of cruelty. I suppose we might get used to sleeping with a halter round our necks, but it is not comfortable. The Southern plan, if put to vote among the horses, would be the one adopted as best.

*Farm and Villa of Mr. Donaldson.*—Don't we wish, Mr. Editor, that it was ours, and that we had the wherewithal to enjoy that same? And yet I covet it not. It is in good hands, and *blithe* may it ever be to its present owner. If many of our city millionaires would go and do likewise, it would be better for them and the world in general. These descriptive views of yours are always read with pleasure and profit. They are calculated to make the owners feel justly proud to see their labors of improvement duly and honorably appreciated, and are well calculated to induce thousands of city dwellers who have the time and means to enable them to enjoy rural life, to go out upon some ill cultivated or desolate and barren spot, and make it blossom like the rose, as Mr. Donaldson has done. To my mind there is no enjoyment for a man of wealth, equal to that of *creating* a little world of comfort and beauty for and around his own household. I hope you will continue your visits and descriptions, till every similar house is described, and that you will thereby *create a taste*, that will cause them to be erected faster than you can give us an account of them.

*Machine for Cleaning Gravel Walks.*—Will that machine answer in the southern latitude for a "cotton scraper?" Let them that know, speak. It looks to me as though it would take the place of "the sweep," in the hands of a white man; with a negro, doubtful.

*Scraps from my Note Book, No.* 2.—Pretty fair, but not quite so good as No. 1. These "jottings down by the way-side" are generally interesting and instructive. I hope the author will continue them.

*Peach and Nectarine Trees on Plum Stocks.*—I cannot see the object of this kind of grafting in this fruitful country, where the land is not yet so dear as to require dwarfing to save room. We graft too much. Who raises native fruit now? Is it in consequence of forcing nature that trees are so short-lived, and that there are so many failures of fruit?

*Stump Machine.*—Is this the "latest and best?" It strikes me that I saw a failure of one of these machines at Utica, at the fair. The cotton press seen upon every plantation is similar in principle, but far more powerful.

*Analysis of Marl on the Hudson.*—A valuable kind of tables that should be more extended. In some parts of the West, where there is no limestone, quick lime is made of similar marl—it being moulded into brick and burned in a kiln in the same manner that bricks are. This hint may be useful in many other districts where there is similar marl and no limestone. The vegetable matter will burn out, and the water dry out, while all else that remains besides the lime, of iron and earthy matter, will not injure the lime for the use of the mason in the least. If there is much iron, the lime will be dark-colored, and not so white and nice for plastering, that is all.

*Experiments with Corn.*—Here is another useful table. But why is it anonymous? Do give your names, gentlemen, that your reviewer may know who will bear hard words best. The "home-made" manure in this experiment, must be awarded the first premium, as all home-made things upon the farm always should stand first in the affection of the farmer. It is time enough to look abroad to supply his wants, when they can no longer be supplied at home.

*Stingless Bees.*—A very interesting article, but not half full enough. If you please, Mr. Editor, just step into the book store of your publishers, Messrs. Saxton & Miles, and get a little work entitled the "Honey Bee," by Edward Bevan, and look on page 76, for a history of the *genus apis*, whose proper name is the "*tropical bee*," for they are not exclusively Mexican. They are common more to Asia and America within the tropics. You may make a very interesting extract from the work alluded to, upon the subject of these honey gatherers. The same ship that brings the Alpacas can also bring a few swarms of stingless bees.

*Growing Wool.*—I often hear this term of "growing wool" objected to. I insist that it is not only right, but ought to be as universally adopted as "growing turnips." It expresses the meaning much better than "raising wool," "raising sheep," or "feeding mutton." But, Mr. G., what if you cannot get such a fine gravelly stream? What, then? Will the plan described by Solon Robinson, in his "Sheep on the Prairies, No. 3," answer as a substitute? You say we shall export wool. What! while we import a half blood Merino quality as we do now (unwashed it is true), for seven cents a pound, duty free? [Yes, certainly, for there are many objections to this imported wool, which require an article of too great length for us to write at present.] The sale of every other product besides wool, depends much upon the manner in which it is prepared for market. There is great want of reform upon this point. I would instance the article of butter. If properly prepared, it is better at six months old than six days. And cheese should never be eaten till a year old; but then it must first be properly prepared to keep, as well as send to market.

*Buckwheat Cakes.*—Another thing, if "properly prepared," which affords most excellent eating; but unfortunately, these proper preparations are few and far between. And your preparation with soda and acid, and salæratus, and vinegar, may do very well for them that cannot do better. You say truly that your vinegar cakes will *not* be so good as when raised by good hop yeast, and you might have said that they would only be barely eatable. Substitute buttermilk for acid and vinegar, and then see what the advantage is of living where milk is ever flowing.

*Castration of Calves.*—"Put nothing in the wound," is common sense, and using salt, ashes, &c., is only a refinement of cruelty. But, about cording. When I was a boy, I witnessed an operation called "turning," by which the testicle was inverted, and by a cord, apparently without pain to the animal, kept in that position for a few days, when the cord was removed, and the whole seemed to wither up and decay without danger and but little trouble. Who knows anything of this practice now? Somebody, surely, and somebody else would like to. Let us hear from somebody. [This amounts to the same thing as cording; castration is better, and less painful, depend upon it.]

*Oneida County Ag. Society.*—Crops worthy of the premiums. And why should they not be, and why should not the society be a flourishing one, in so fertile and rich a county? But, to my mind, there is need of something beside big crops in this county, for there is now and then a specimen of as poor farming as I wish to look at. The Editor of the Tribune says they cultivate large quantities of apples there, of that interesting variety known as "five to the pint." And I say that if there is not a greater spirit of liberality towards the friends of agricultural improvement than was manifested at Utica last September, those gentlemen composing the Oneida Agricultural Society have some hard cases to deal with, and will need a great deal of patience and perseverance on their part before they work a thorough reform. Let me suggest that they offer a premium of $10 to the man who will procure the greatest number of subscribers to an agricultural paper in that county, as the most likely means of producing the desired reform.

*Cattle of Texas.*—Allow me to differ with your opinion so confidently expressed, Gov. Houston. There "are several good reasons why blooded cattle and horses should not do well in Texas, if proper care be taken of them the first year." Because you will not take proper care of them the next year, and therefore on the next they will be beyond care. The fact is, choice stock needs the watchful care of the owner. And one kind of stock will take but sorry care of another. Texas is a land of negroes, flies, musquitoes, gnats, ticks, garapatas; and very hot and very changeable weather, which more than overbalances the advantages of the eternal verdure. The thin-skinned, high-bred Durham cannot exist in such a country, where the only care they will get is an annual "marking and branding." But let me assure you, Governor, you have already adapted to your country, a better breed for your use, than any Durham, in the native cattle. I have seen many of them, and think I can judge. Go on with your improvement of cattle already acclimated and fitted by nature or long residence to your country, and let those breed the higher qualities who have a more favorable country for that purpose. Improve the stock you have—you cannot better it, taking all things into consideration. [Mr. Reviewer, we do not agree with you here at all.]

*Indian Cakes.*—True to the letter. But you should have said *don't grind the corn too fine.* No kind of grain is actually spoiled by grinding too fine, except corn; though wheat is injured. But good corn bread, cakes, or mush, *cannot be made of fine meal;* neither can corn meal be *cooked* in a hurry. It may be heated and swallowed half raw —fit food for a hog—certainly not for a man. White corn, of the gourd-seed variety, ground coarse, and baked in the ashes, southern negro fashion, does make sweet, good, rich, healthy, palatable bread.

*The Grass Lands of Western New York.*—Time will bring about the same results over a vast part of that great wheat-growing country, west of the Lakes, that you describe, notwithstanding so many of our citizens are so anxious to locate themselves upon "an inexhaustible wheat soil." They will be disappointed, just as the first settlers were, upon the lands you mention. And "strange whims and conceits" will continue to exist. Why is it, that men adhere so pertinaciously to wheat, as though there was no other crop that could be cultivated to any advantage? A new country, whatever else its advantages may be, whenever a new settler comes *into it,* his first inquiry is, "is it good for wheat?" and if not, he passes on; though this depends partly upon where he comes from; for, if from the South, he will be just as anxious as the Eastern man to know whether the new land is good for corn; if not, he passes on. Few, if any, seek for a grass country. If land can be bought as cheap as you say, many persons who seek new homes might go farther and fare worse. It is a great error of people in this part of the country, that they only count wealth by dollars in cash. . . . In England, land is wealth. In the Southern States, a man's wealth is estimated by the number of his slaves. It is a common expression in speaking of the marriage of a young man, to say, "Mr. A. has married fifty negroes." Heavens what a bride! On the southern part of this continent, a man is estimated by his cattle. All this shows that something is yet wanting to your grass lands of Western New York; that something is, intelligence, information, improvement, and that wealth does not consist in dollars, acres, negroes, nor hoofs and horns; but in the greatest amount of human happiness. That country is the best where this exists in the greatest abundance, no matter what are the staple productions. . . . But from such a land as you describe, people have no occasion to emigrate, for they can live and be comfortable, contented and happy, and rich too, in dollars, if they will.

*Seedling Potatoes.*—What is meant by the term? [It is a new variety of potatoes grown from seed.] Is it those which have grown from the *balls* the first year after planting? This writer, like many others, is too indefinite upon this point. Evidently he refers back to another article. But every number of a paper of this kind should be as near perfect in itself as possible. That is, what information of one subject or one branch is given, be so worded that it would be complete. Without looking back to the other article, it would appear that this writer has made one of the most important discoveries of the age, and under that title, a short, concise recipe should have been given to enable all the rest of the world to partake of the benefit. What is the prevention of rot? Is it the drying of seed or top-dressing of lime? If the lime is also requisite, there are many places where the disease prevails that the medicine would cost more than the crop would be worth. Is it objectionable to plant whole seed when there is no disease? What is your soil? Will everybody know where Rockland County is? You name no State. [It is in New York.] Soil and locality should be definitely given. Your remarks upon liquid manure, and manner of applying it, I approve. Much of the most valuable part of manure is lost in the waste of liquids in town and country. The wisdom of the Chinese I have before referred to. They have learned how to save the enormous tax upon industry in the shape of fence, and that enables them to devote more time than we can to the saving and applying manure. I am not so sure that it is the best way though to apply it in the liquid state in this country, unless done in a very dry time. Notwithstanding that bones are such valuable manure, not one farmer in ten that saves them. Even a dead horse is hauled off to feed the dogs, instead of being used to feed vegetation.

*Ladies' Department.—Insects, No. 2.*—What! ladies writing about bugs and beetles, woodpeckers and worms, and going out in the storm to search into the operations of nature, wrapped up in a thin coat and hood! I don't believe it. Oh, I beg pardon. I see now, it is from the Diary of an Old Lady. It is no wonder she sought employment. This kind of information is not taught our "latter day" *young ladies,* who get an education (do they —is it a real education) in a "fashionable boarding-school," where they are taught to think it would be a disgrace to visit a meat room, and looking for bugs and moths, and would faint if the name of "a red-headed woodpecker" should be spoken in their presence. And these are farmers' girls of our day. Verily this writer must be an *old* woman, indeed. And with her generation the race of such will disappear, I am afraid. I only hope that this "diary" is voluminous, and that you have free access to it. If any of your readers have neglected to read this article, because it comes from an *old lady,* let them hasten to correct their error, and retrieve their loss.

*The Garden.*—This article is calculated for the meridian of New York. The writer forgets that in several of the states, corn is planted in the previous month, and garden vegetables are being eaten in March. It is very difficult to calculate an agricultural or horticultural article to suit the wide-spread varied climate of this nation. [But this was done in the Northern and Southern Calendars, in our third volume; and these, by the way, have been the *regular plunder* of every Almanac maker and writer of Calendars since their publication.]

*Hints to Ladies.*—Should have been hints to the carpenter who builds the stairs, to carefully round off the corners, and then the paper may be dispensed with.

*Boys' Department.—Useful Amusements.*—I object to the positive term of the first line. It should have read, "the care of young stock *should* belong to the women and boys." But when you know what you know, you will not say, "on most farms it does," &c., because on most farms, except where linger a few of the *ancients*, like your *old lady* of the Diary, the women pay but little attention to the stock. And some of our boys are more inclined to become acquainted with a stock of *dry goods*, than a stock of *cattle*. And far too many know more about sucking the *bottle*, than sucking the *calves*. The same remarks of kind treatment should apply to every domestic animal upon the farm. Be gentle, and they will be gentle.

*Another Poultry Account.*—Here we have a kind of Peter Parley poulterer, who understands what but very few writers do, "the art of writing for boys." They must be amused while being instructed. He is willing to tell his *errors*, which but few are. Evident from the quantity of lice, that you did not use whitewash, ashes, and lime enough, in the hen-house. Ought to have burnt that brush heap that harbored that rat. Ought not to feed so high, and ought to have used cheaper feed. Ought to have put one grain of strychnia in a piece of meat, or inside a little lump of lard on a chip, and put that in the way of their dogs. It is very wholesome medicine for night-prowling dogs; it *entirely cures* them of the propensity. Some of these figures in some places upon both sides, will look rather large, but perhaps are all right, except the feathers. They are quoted "above the market." Friend L., will you tell the boys how that pond is made, artificially, to hold water all summer? There are many places where such ponds are needed.

*Foreign Agricultural News.*—Will those reductions of the British tariff so greatly benefit this country as is anticipated, if met by a "similar spirit at Washington," upon the free-trade principle? The discrimination between "bacon" and "hams," of 7s. on the cwt., shows very plainly that the British cabinet never were in the city of "Porkopolis." It is all "gammon." To save the Times the trouble of sending us a recipe to cure the "dainty dish" of bacon, I will give one "free of postage." Use 6 lbs. of salt and 3 oz. of saltpetre, to 100 lbs. of pork, and never touch water to it, or use a cask—salt it on a bench where all the bloody matter can drain off. When the salt is absorbed, put it to smoke where the fire will not heat it, and where there is a good ventilation, and use hickory or maple wood—don't smoke too fast, and my word for it, the bacon will be as good as was ever eaten by Englishmen. If hams pay duty, how we are to make the custom-house officers believe that mutton hams are not hams, is past my understanding. "More gammon." There are a great many sheep in the United States that ought to be muttoned, but I hope Mr. Rotch will bring us some from Spain that ought not to be... The prize that Mr. Norton has won, shows that the Highland Society think that there are other objects worthy of a prize besides big bulls and boars. When shall we witness the same spirit here?

*To prevent the Return of Disease in Potatoes.*—More gammon. The truth is, the disease has shown itself in isolated places upon the ground prairie of Illinois, within a year past, where it was utterly impossible that it could have been by contagion with diseased seed. The military cordons of Europe never stopped the cholera, nor will it prevent the spread of the potato disease.

*Increase of Stock in New South Wales.*—Why cannot we have an annual census of stock taken by the assessors in our country, to show that we grow some too? In regard to sheep, particularly, such tables would be useful. [Reviewer will find these matters in the census returns of this State, taken last year.]

*Steep for Seed Wheat.*—Very rational, and plainly stated. Something of a job to prepare the seed of some of the western wheat farms—and costly, but it might pay cost, and make profit.

*Potatoes.*—"No great loss without some small gain," if the diseased tubers will fatten the pigs faster than sound ones. But I fear that in this account there is more "gammon." We have a disease in this country that don't stop after it starts, till the whole potatoe is "as rotten as a potato." Do they plant potatoes in England, in *autumn*? [Yes, in the South of England; and have them ripe in May, to supply the London market. The winter there is seldom colder than the month of November, in latitude 40°, in the United States. It is usually much more rainy, however.] I know it is done in Mississippi, but did not know it was so in England. But "live and learn" is an old and true proverb.

*Editor's Table.*—Now, my dear reader, here is "more gammon." The editor of the American Agriculturist is a bachelor, and, as a matter of course, *has not got any table*; though his personal appearance certainly indicates that he is fond of a *good table*, and yet I know few men more abstemious. But as he has had the advantage often of sitting at a good table, he ought now to be able to set a good one for us. I have now shown up his "bill of fare" for one month, and what do you say to it? Does he furnish forth a good table to feed our intellectual appetites, and gratify our hunger after a knowledge of an improved state of agriculture? Who votes in the affirmative? His subscription list will tell. Who votes in the negative? It is no *libel*, I suppose, to say not one.

*The Illustrated Botany.*—Of all the valuable new works noticed in the editor's table, this may be made the most interesting. Whether this is so or not I cannot say, not having seen it. While upon this subject, I will offer my opinion, that if some of our publishers would issue a cheap edition of Michaux's North American Sylva, it would meet with a ready sale, and would prove a most valuable work for all agricultural readers. The plates are in this country. They were owned by the late Wm. McClure, of Philadelphia. Let us have this valuable work reprinted. The country needs it. [The attempt was made two or three years ago, and proved a failure. We would inform Reviewer that a work is now in the press of Messrs. Harper of this city, by Mr. Browne, which will not only embrace the substance of Michaux's work, but will also treat of the principal fruit and ornamental trees of this country, and may be bought for the reasonable sum of $5.]

*Life in California.*—More annexation. No objection. It is destiny. And that "representative" will come to Congress *at St. Louis*, upon a railroad. If this is visionary, it is a vision of futurity, which our children (if we had any, Mr. Editor) would live to see.

*European Agriculture, No. 5.*—Have not seen it. But, upon the whole (doubtful praise), I am glad to hear you say that you "like the latter part of this number better than anything which has yet appeared in Mr. Coleman's work." Now, the fact is, and it ought to be spoken out boldly, this work is a flat failure. It is not what the American reader expected from Mr. Coleman's pen; and it is dear at cost. I never saw a number of this paper, that I did not esteem of more value than any of the four first numbers of Mr. Coleman's tour. I am not alone in my opinion. And if there is not substantial reason for the public to "like better" the succeeding numbers, there will be a very loud *speaking out.*

*Agricultural School.*—These attempts of individuals to do a national work, however praiseworthy, can never succeed. When the agriculturists themselves will lay aside their foolish squabbles for "party," and send more from their own body to legislate for them, then may we expect to see agricultural schools worthy their name, and not till then.

*Important Discovery.*—Not half so important as it would be to hear that an improvement had been made *in* the present manner of cultivating and preparing the hemp crop for market.

*Review of the Market.*—As farmers, what have we to complain of these prices current? But we can, if we will, learn a useful lesson. For instance, here is a difference of fifty per cent. in the price of butter. All owing to the *manner of preparing it for market.* Cheese varies 100 per cent., and ought to vary a thousand, for the same reason. The variation of cotton from 6 to 10 cents is partly owing to natural quality; but there is an immense loss upon the same quality of this crop to the planter, which is entirely owing to the slovenly manner of preparing it for market. One mill per pound upon this crop in the United States makes a great sum of money. The same remarks will apply to almost every article of produce. In noticing the cattle market, we are impressed with the fact that we are enormous consumers of meat. Is it the most healthy or most economical diet? . . . In the premium list of the State Ag. Society, shall we find a premium of $100 to the society of that county that furnishes evidence of taking the greatest number of agricultural papers? They could not offer a better one.

I have now passed every article in the March No. of the paper under review, except the advertisements, and some of them might be commented on with profit, but I desist. My review is already a very long one. But I hope it does not contain an unusual amount of superfluous matter.

My object has not been to praise or blame, or pick flaws, but to write an article to do good. At present, I prefer concealing my name. But, as a general rule, I think that correspondents should give theirs, with the place of residence, and even the latitude would be useful. I hope no one will fear to write on account of the reviewer, for if I should continue to review (which is doubtful), it shall be done in a spirit of good-will to all men.

The next shall be an improvement upon this—*i. e.*, shorter, consequently better. REVIEWER.

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When our correspondent criticised our article on the stable, May No., page 160, we wrote the following explanation, which we intended should have been inserted at the time, but there not being room for it on that page, we thought proper to defer it till he got through with his review.

The cut made use of in March No., was intended to illustrate a method of *managing a kicker*, and the rack had nothing to do with the illustration of that particular subject. The artist probably put it in for effect, and to set off his cut; why else it should appear there would puzzle us no less than Reviewer. By looking over the preceding numbers on the Stable, he will find that we have given illustrations of many kinds of racks and hay mangers, good and bad, indicating our decided preference for low ones, as the best. And yet some horses must have a different kind.

Reviewer's method of preventing kicking by hobbles is a good one in the open fields, though it frequently disfigures, and sometimes utterly ruins, the horse; but we must take the risk of that. It is generally used, however, to prevent jumping or straying away; to apply it in the stable where the kicking is most dangerous, would be very hazardous. We doubt whether a hobbled horse could get up in a narrow stall after lying down to rest, and in his efforts to do so, he would be very likely to injure himself so materially as to become utterly useless.

As to smooth shoeing, we contend that it is best in all countries during the dry or summer months; in the winter or muddy months, Southern horses would require corks to their shoes, as well as those at the North, otherwise they would slip badly, and the fatigue of travelling consequently be greatly increased.

IMPORTANT FACT.—From experiments made in England some time since, by Dr. Anderson, it was ascertained that 1 bushel of wheat measured in a vessel 11½ inches deep, weighed 56 lbs. 6¾ oz.; and that a bushel of the same kind of wheat, measured in another vessel 8½ inches deep, weighed 56 lbs. 0½ oz., making a difference of rather more than one bushel in 144—a loss of some moment when large quantities are delivered. The same principle will apply to rye, oats, barley, and many other substances sold by measure.

## TRANSPLANTING AND GRAFTING TREES.

In looking over agricultural journals and other publications during the last year, I have observed numerous articles upon the planting of fruit and ornamental trees. These almost without exception differ so widely from my own experience, that though averse to obtruding my thoughts and opinions upon the public, I am induced in the present instance to address a few lines to you with the hope of offering some useful suggestions. The general strain of teaching on this subject is that almost all trees, whether for fruit or ornament, should be transplanted before the close of February at the latest, and, in fact, it seems to be an established axiom, *that a tree is never to be removed after the sap has begun to circulate.* As far as my own experience extends, this rule, which, if I am not mistaken, is to be found in almost so many words in one of the numbers of the Agriculturist for 1845, is wholly wrong; and if we would save ourselves much trouble and expense in this most interesting and important department of our rural affairs, it should be exactly reversed in all cases, except where trees are to be transported so far as to occasion their being kept long out of the ground. In other words, never remove a tree, where you have the opportunity of replanting it immediately, till after the sap has not only started, but begun to circulate freely. If this appears to be a strange and unreasonable doctrine, it can only be said in reply, " one fact is worth a thousand theories; and there are more things in this world than are dreamed of in our philosophy."

It is now eight or twelve years since I first began to improve a small place in the western part of North Carolina. I commenced setting out a very considerable number of trees of various kinds, among which, however, were a large proportion of the common locust. This was done during the months of January and February, according to rule; but to my great disappointment, not a dozen of the whole collection took root. The year following the effort was renewed with similar results, and so matters went on for several seasons in succession. At last, accidental circumstances prevented my obtaining trees till it was so late that I had little or no expectation of their living. About 20 locusts were procured just as the leaves were bursting into view, and of these only one failed to live and flourish. At the same time a number of young apple trees were transplanted, on which the leaves were fully out. They had been carried several miles in the hot sun, without protection to the roots; yet of these only two perished.

Subsequent experience has fully sustained the idea thus suggested. Of nearly 200 trees transplanted lately at my present residence, not one was removed till late in the spring—all after the sap had begun to flow, and many after the leaves, had attained a considerable size. Of these scarcely any are dead, and without exception were such as were taken up earliest in the season, and in the most backward state. The same has been found the case with evergreens. Pines, and other trees of the same family, when transplanted in winter, have rarely done well; whereas those set out late in the spring, have been found to contend successfully against negligent treatment, and the most withering drought.

Whether there is anything in a southern climate, or in accidental circumstances, to account for these things, I do not pretend to say. Possibly attempts may be made to explain them in some such way. To me it appears anything but unreasonable to regard them as facts founded in nature. A tree removed when entirely destitute of sap, has nothing to sustain it against the blighting influences naturally consequent upon such a change of condition. Its whole system receives a shock at the outset by the breaking of its roots; and it shrinks and withers from other causes before new roots can put forth to sustain it. But, on the contrary, if removed after the circulation has commenced, it has sufficient to live upon while the rootlets or fibres, which always protrude simultaneously with the leaves and branchlets, are shooting out in search of new supplies of nourishment (*a*).

The same view of the case will serve to explain another fact, viz., that grafts take much better if cut after the sap has begun to flow. At least such has been the result of my own observations the present season. Of a large number taken from the tree just as the buds were beginning to swell, only one of my own has failed; and a neighbor, who used largely from the same lot, has lost not one. In this case, however, the stocks were in leaf into which the grafts were inserted, and this, it would seem but reasonable should always be the case. Of my grafts which were cut this year in January and February, and inserted with equal care, not one half succeeded. T. S. W. Mott.

*Belvoir, N. C., May* 21, 1846.

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(*a*) Much has been written respecting the proper season for transplanting trees—summer and autumn for evergreens, and spring or mild weather in winter for deciduous trees. The principle which justifies these practices is, that all plants whatever, with few exceptions, are most safely removed when they are in a comparatively dormant state, and when the weather is temperate, and the air moist and still, rather than dry and in motion. As it is known that the greatest degree of torpidity in any plant exists a short time before it begins to grow or push out shoots, late in winter or early in spring, is regarded as the best time for transplanting. The chief difference to be regarded between evergreens and deciduous trees, is that, from the circumstance of the former being at no time, whatever, in a completely dormant state, they may be removed at any time in winter, spring, or autumn, when the weather will least affect their fibrous roots and leaves by evaporation. This is in perfect accordance with the practice of the best gardeners; and it has been laid down as the most judicious mode founded on experience. As the apple tree and the common locust are both very tenacious of life, they may both be propagated when kept moist, with great facility, at almost any season, by cuttings of the roots, or by suckers, which are often thrown up in great numbers around the trunks; but if our correspondent were to attempt to cultivate the walnut, and many other trees, by his mode of transplanting, we think he would be sorely disappointed. 'Tis true, we believe, as he intimates, that the mildness of the climate in the Southern States has a strong tendency to accelerate the propagation of trees; for, it appears that, in the north of France, and in cold countries generally, some trees do not readily bud nor graft by any mode; but, in the south of France, and north of Italy, they may be budded or grafted by different modes, with success.

We have so little experience individually in Southern agriculture, that we are unprepared to give any but a general opinion on the subject of transplanting, and shall therefore be quite obliged if Mr. Mott will continue his experiments, extending them to the different kinds of trees grown in his climate, and inform us of the results. With the increased culture of fruits, and a more prevailing disposition to beautify and adorn the country, the subject of transplanting is becoming of increased importance to our Southern friends, and it would certainly be a great desideratum to know the best time of the year to perform the operation.

## RAMBOUILLET MERINOS.

I HAVE but a few words to say in reply to your anonymous correspondent, "L." I intend to send my fleeces from the Rambouillet flock, to Mr. Samuel Lawrence, Middlesex Mills, Lowell, Mass.; and if any friend of his will keep back the coarsest fleeces of his flock, and send an equal number of his finest American Merino fleeces, and it is found on stapling, scouring, and selling, that his are finer, heavier, and sell for more than my 36 Rambouillet fleeces, *then, and not till then*, will I believe that there are *American Merino* flocks that equal them in value. For my own part, I feel no interest in this comparison—confident as I am of the high value of this race of sheep—and not disposed to call in question the merits of other flocks, or enter into controversy with any one on the subject of comparative value. I rejoice in all *real improvement*, and will hold on the "even tenor" of my way, not deeming it any interference with my duty or the rights of others, to endeavor to promote general improvement by what I judge to be the best means.

I saw from the last paper of your worthy correspondent, "L.," that he has never seen the Rambouillet Merinos, and that he is consequently writing just as much in the dark about them, as I should be in writing about Herefords, having never seen any thorough bred cattle but Short-Horns. I take it for granted that a man must be supposed to know very little about a race of sheep, or a particular flock of that race, which he has never seen.

I object to comparing "*samples*"—for the reason, that they are no true test of the value of the fleece. Very good samples may be taken from very poor, *uneven* fleeces. The great excellence of the Rambouillets, as a flock, consists, not only in the *fineness* but also in the *evenness* of the fleece—running so nearly alike over every part of the woolly surface—and in this respect, differing widely from all such American Merinos as I have seen—though I have seen of these last very good sheep, as individuals, in this respect: but as flocks they are always defective, so far as my knowledge extends.

I have but one word more. "L." writes with courtesy and as a gentleman, intending no injustice. Yet when he "supposes" that my American Merinos "belong" to what he is pleased to call a "family of Vermont Merinos,"—"the most common one claiming purity of blood, with heavy carcases, and heavy medium quality, and rather uneven fleeces," he leads his readers to a wrong conclusion. My American Merinos were selected mostly from flocks out of the State, and the best that could be found, though no better than can be found here. The best American Merinos are somewhat alike—*very much alike*—and for this reason, I supposed mine were like Col. R.'s, not meaning to disparage his in the least. Yet I am free to acknowledge, that I have nothing in this last named race that will for a moment compare advantageously with the Rambouillets. If Col. Randall has, I shall heartily rejoice in his good fortune. I have the opinion, however, that neither he nor any other flock-master in the country can rejoice in so good fortune as this at present, and that nothing can be shown equal to the Rambouillets, of the pure Merino race, until another importation is made from the Royal Flock in France. And so well is the country convinced of this, that I am persuaded that more than one importation will be made within a year from this date. Meantime I must decline for the future all controversy and all challenges on the subject. L. G. BINGHAM.

*Williston, Vermont, June*, 10, 1846.

We hope, now, that this matter may be closed by Mr. Randall meeting Mr. Bingham at Lowell, with his fleeces. In the Review of our April No., just received, and for which we regret to say we shall not have room this month, the writer so briefly expresses our own opinion, and we suspect that also of the public generally, that we give the paragraph in advance of his article:—

"*Rambouillet Merinos.*—Too much controversy on this subject to be profitable to your readers. If Mr. Bingham's flock do average 5 lbs. per head of real Merino wool, then it is a good flock. If Mr. Randall's average more, and better wool, then his flock is better; to prove which, send the whole to Mr. Lawrence, of Lowell, and publish his certificate of the relative value of their respective fleeces, and let us hear no more of this uninteresting dispute of which is best."

We expect an American gentleman, now in France, celebrated for his knowledge of sheep and wool, will arrive here next month with a choice selected lot of Rambouillets, for his own particular breeding; arrangements also are made for another select lot to follow these next spring, so that by another year, these, together with Mr. Bingham's superb flock, will give the public a good opportunity of judging for themselves how Rambouillet sheep compare with our native Merinos.

* * *

**WEATHER RULES.**—If the moon looks *pale* and *dim*, we may expect rain; if it be *red*, look out for wind; and if its color be of a *natural* white, the weather will be fair.

* * *

**HOW TO DRIVE AWAY MOSQUITOES.**—Fumigate the room containing them, by burning brown sugar on a shovel or pan of coals.

# Ladies' Department.

## CHOICE OF BUSINESS PURSUITS FOR CHILDREN.

"There is a frequent complaint among farmers, that their sons early manifest a distaste for agriculture,—that as soon as they are of an age to be useful, they seek other employments."—*Stone's Address*, 1845.

In the choice of business pursuits for our children, it is undoubtedly the wisest plan to conform as far as practicable to the natural inclination, or as it is familiarly called, suit the turn of mind; for all are not alike, and he who would make a miserable mechanic, may rise to eminence as a lawyer; while he who would find himself totally unable to defend a cause either for plaintiff or defendant, may be admirably fitted to be judge, jury, and whole witness box, when rotation of crops, culture of roots, and subsoil plowing, are under consideration. But, unfortunately, there is too good reason for the frequent complaint that the sons, and daughters also, of farmers, who by mind and taste are constituted for country life and labor, no sooner arrive at an age when they imagine themselves independent, than they turn their backs upon the farm, perhaps with scorn at the idea of following the honorable employment of their fathers. Among the many reasons assigned for this lamentable fact, I would now notice one, which may be expressed in a sentence, as the want of refinement among farmers' wives.

It may seem, at first sight, that here is no obvious connection between cause and effect; but I will endeavor to prove that there is, not so much to uphold the children, as to convince the parents that remedy for the evil is in their possession.

Ambition is inherent in our natures, and we are all inclined to opinions that will advance or retard what we consider our best interests. If then we allow our children to draw comparisons manifestly to our disadvantage, we must expect they will shun a calling, the pursuit of which makes, in their estimation, such vast difference between ourselves and others. There is no doubt, that many a farmer's son, who loves the toil of seed-time and harvest, enters a store or studies a profession, because he thinks no woman of intellect and polish would become his wife, were he to remain a farmer; while his sister, with her whole soul yearning for the beauties of nature, refuses a home among them, and condemns herself to an unhealthy existence in the close and crowded city, because she cannot consent to become, what she considers a farmer's wife must be, a mere animal drudge. So universal are these opinions, that when a merchant's daughter has left her father's house, where she had been accustomed to comparative luxury and refinement, to become the mistress of a farm, I have heard her sorrowed for, as if she had sacrificed every earthly comfort and enjoyment. "She, a farmer's wife! What a pity that one so fitted to shine in the best circles, should, as it were, bury herself alive!" Again, when the son of a wealthy man, clinging perhaps to the recollection of boyhood's happiness in country visits, has manifested a desire to follow the plow for a maintenance, I have heard arguments and entreaties used to dissuade him from it, that could not have been stronger had he desired the post of hangman. These things ought not so to be, and yet a change cannot speedily be effected until our farmers become less what they now are, a peculiar people. True, agriculture is making rapid progress, and fast becoming what it should be, a science and a profession; but it cannot reach the high point among the sciences and professions which it is most worthy to occupy, until the "sons of the soil" more generally acknowledge for themselves and families an intellectual as well as a physical existence; until they combine with hand-work, head-work, with the rough labor necessary for subsistence, the polish and refinement which gild the humblest home. I would not be understood one moment as an advocate for the follies of fashionable boarding-schools or expensive dress, but I would contend for my hardly tasked country-women, that they be allowed books to study, time for daily mental culture, even for the accomplishments (if they have a taste for them) which might have been attended to before marriage, that in their dress,—but here I must pause for a question or two.

An English writer in some excellent advice to his daughters says:—"It is a good rule, to follow the fashion in dress just so far that you shall not be marked as singular;" and as no woman who sufficiently respects herself, can wish to be considered singular (unless for her *goodness*), I would ask, if there is not as much reason in wearing our dresses as far in conformity with the prevailing fashion as modesty and good taste will allow, as there is in making it questionable whether we have adopted the costume of the ark? Or if, in purchasing our garments, there is not as much economy in procuring a pretty and becoming article, as in selecting one intolerably ugly, both being the same price and texture? And as outward appearance, by conventional rules, is in some degree a standard of the station we fill, if it is not better to give a few minutes more to the duties of the toilet, or adopt some little distinction, whereby a stranger may not feel in perplexity whether he is addressing himself to mistress or maid? The answer to these queries I must leave to wiser heads than mine, as there may be some good, unknown reasons for that love of the obsolete which prevails so extensively among a certain class of females.

If we are "never too old to learn," we are certainly never too old to amend; and I call upon my sisters of the craft, who have been induced by many cares and duties to lay aside the little refinements that characterize the lady, to shut up their books, and in losing the key of the library, lose the intellectual woman—I call upon them, though long wedded to mechanical habits, to rouse themselves for their children's sake, to look for that lost key and those departed graces, and resolve to do all that in them lies, towards making the farmer's profession what it was intended to be, in the eyes of their children and the world, the noblest, the happiest. And let those just commencing, remember that, while they should consider no labor derogatory, it is yet possible to cultivate polished manners while attending upon necessary household affairs, and that no one is so thoroughly accomplished, as she who adds to the attainment of learning, complete practical knowledge of all domestic duties. If they resolve in the beginning that their occupations shall be so arranged as to give time for all they wish, and strive to impress upon their husbands the justice of a division of labor within doors as well as out, they will doubtless succeed in becoming not only intelligent companions, but excellent housewives; for as a clever female writer has remarked, " other things being equal, the woman of the highest mental endowments will always be the best housekeeper, for domestic economy is a science that brings into action the qualities of the mind as well as the graces of the heart."

And if better companions and wives, then better mothers also, for the higher the cultivation of their own minds and manners, the more fitted will they be to control the minds and manners of others; and when their children see them moving in polished circles abroad, or presiding over the little group at home, with equal grace and dignity, suffering nothing in a comparison with the most highly intelligent, then will their father's occupation become honored for the parent's sake, and if not chosen as their own, yet not rejected because degrading.

*Lynn, Mass., June 3d,* 1846. E. M. C.

## Boys' Department.

### AGRICULTURAL EDUCATION.

One afternoon, in the month of July, immediately after a smart thunder-storm, as Mr. Merryman was taking a walk over his farm, with his son George, a dab of a school-boy, at his side, their nostrils were regaled by a delicious and peculiar odor which was rising from the ground.

George looked up knowingly into his father's face, and said, " Papa, do you know where that sweet scent comes from ?"

" To be sure, child !" said Mr. Merryman. " *From the ground.*"

" Yes," said George, " but what makes it come from the ground ?"

" Why, the *rain*," answered his father.

" But what makes the rain bring it from the ground ?" continued the boy.

Mr. Merryman looked puzzled, and stood in silence; whilst George, who had just entered the junior class in agricultural chemistry, strongly came out with his first lesson.

" *It comes from the ammonia brought down in the rain more rapidly than the earth can absorb it, and which, being a highly volatile gas, is rising again into the air as soon as the storm is over !*"

" Nonsense, child !" said the perplexed, though good-natured farmer.

" But Professor Liebig and Dr. Playfair, and all the great chemists say that it is so," rejoined the young tyro.

" But *how can they prove it, boy ?*" inquired the disbelieving parent.

" Why, in this way," answered George. " They say that although the carbonate of ammonia, which smells so deliciously, is a volatile gas, the *sulphate* of ammonia is a fixed and visible body; and if you spread finely powdered gypsum, or plaster, which is *sulphate of lime*, upon a grass field, you may walk over it after a thunder-shower without perceiving this scent; for the gypsum lays hold of the ammonia and obliges it to make a very curious interchange—a sort of cross marriage; for the sulphur leaves the lime and unites with the ammonia, and becomes *sulphate of ammonia*, and the carbonate, abandoned by the ammonia, consoles the deserted lime, and becomes *carbonate of lime*, commonly called chalk ! And thus gypsum, though not a manure itself, becomes the basis of two manures—sulphate of ammonia, which is an *organic* manure, and carbonate of lime, which is an *inorganic* manure. But the master says we must not speak of inorganic *manures*, because it leads to confusion; and it is better to call inorganic substances applied to the soil ' alteratives,' for the sake of distinction. And he says that if powdered gypsum be spread occasionally over the stables and the farm-yard, it will take up all the ammonia that now goes off in smell, and by the same process above-mentioned, will increase the quantity and value of the manure prodigiously."

*Query*, Which is the better agriculturist, that boy or his father ? The one is an experienced and " practical farmer," the other, a stripling just dipped in the first rudiments of " theory." But what is theory ? The condensed result of the whole history of former practice, arranged and classified, enlightened and explained, by reference to the eternal and immutable principles of scientific truth. He who despises theory despises the practice of every man that was born before himself in the world. He who commences practice with the knowledge of theory, commences business with a mind lit up by the recorded experience of all who went before him.

But how is it with the " practical farmer," as he is too often called ? He leaves the rich, vegetable deposits of the valley of the Mohawk, where he had been accustomed from his boyhood to use plaster with the utmost advantage, and settles on the sandy plains of Long Island, where he is laughed at by one of his " practical" neighbors for attempting to benefit his crops by applying plaster to a soil nearly or quite destitute of vegetable mould. His neighbor, in return, is laughed at by a visitor from abroad, for mixing large quantities of quick lime with his peat before spreading it on his field, while the latter is no less absurdly employed in galvanizing a living pig with the belief that he is causing an increase of growth. But our " young theorist" who just gave us the lesson about ammonia, when he will have arrived at the end of his course, will leave the school equally well prepared for any soil you may plant him in, and will be master of the whole art of Agriculture. If he learns every lesson as well as his first, he will be able to turn the laugh upon the " laughers" at the end of one course, without being bound down to the details of practice, whether we place him among the sands of Long Island, the clays of Western New York, the granitic soils of New Hampshire, or the rich vegetable bottoms of the Ohio. *W.*

He who takes a fish out of the water finds a piece of money.—*Dr. Franklin.*

## FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamer Caledonia, we are in receipt of our foreign journals to June 4th.

MARKETS.—*Ashes* were in limited request. *Cotton* firm. There were 780,500 bales on hand in Liverpool on the 1st of June, against 865,190 same period last year. *Flour* dull. *Pork* and *Lard* dull. *Beef* and *Cheese* of superior qualities much wanted. *Naval Stores* quiet. *Rice* in good demand. *Tobacco* steady. *Wool* a trifling decline.

*Money* is again tight.

*The Weather* has been very fine for the past month, and the crops were looking uncommonly well, promising an early and abundant harvest.

*Last Year's Cotton Crop.*—By the report of the Board of Trade, it is proved that, in 1845, 1,069,320 cwt. of cotton were imported into Great Britain; during the present year, 1,019,738 cwts. The difference in weight is thus reduced to a trifle less than 50,000 cwts., or about 14,000 bales. In other words, the falling off in *weight* this year, as compared with last year, is under 4 per cent., but the falling off in *number of bags* is above 30 per cent! The result is, that the manufacturers have little faith in the shortness of the crop, and are of opinion that there is abundance of cotton in the country to meet any demand that is likely to arise. All idea of speculation, therefore, in this article, based upon the shortness of the crop of last year, may be considered at an end.

*Fatal Flowers.*—Recently in London, a young lady went to bed in good health, and was found the next morning dead! The physicians who were called in, declared that the sole cause of this catastrophe was the poisoning of the air by the exhalations of a quantity of lilies found in two large vases on a low table in the room. Roses, tuberoses, jasmines, and, in fact, most flowers, may, in the same way, produce effects, if not mortal, at least very injurious. Their influence acts most powerfully on nervous persons.

*A New Fuchsia.*—At a late meeting of the London Horticultural Society, the report states, that of new plants, perhaps that which excited the most interest was a fuchsia, from Messrs. Veitch & Son, of Exeter, which had been discovered by Mr. W. Lobb, near Lima, in Peru, for which was awarded a large silver medal. It proves to be a curious and rather handsome species, entirely new to gardens, producing an abundance of long rosy pink tubes, of about four inches in length. It is entirely destitute of petals, and therefore the beauty of the flower is confined to the calyx alone.

*Honor to the Introducer of Madder into France.*—The city of Avignon has erected a statue to John Althen, a Persian, who, a century ago, first introduced *madder* into France. It now yields the nation about twenty-five millions of francs per annum.

*Watering out of Doors.*—Some persons are for morning watering, and others for evening; all, however, will agree in the propriety or even necessity of a timely application of this most important element. For my own part, I like the morning as a general rule; more especially for such things as have been recently planted out, such as bedded plants in the flower garden, and young vegetables transplanted from the seed-beds in the kitchen garden. To saturate the soil in such cases is, in my opinion, highly improper, as leading to a considerable waste of the accumulated ground heat, and also as tending to exclude the genial influence of the atmosphere. With regard to young stock of this kind, frequent sprinklings are all that is required; in fact, a kind of cutting treatment, chiefly in order to prevent undue perspiration in the leaf. If this waste is prevented through the day by early morning watering, the plants may safely be left to the dews during the night. Fine-rosed pots should at all times be used, and light sprinklings repeated will prevent the soil from becoming puddled.—*Gard. Chron.*

*Manures.*—Don't add lime to soot; it ruins it. Add soot to chamber ley, and you will do well, but not lime.—*Ibid.*

*Drying Plants.*—In drying plants for a herbarium, care must be taken not to press them so much as to crush them. Succulents, and kinds that drop their leaves, such as heaths, should be dipped in hot water before they are pressed. Each specimen should be placed between a sheet of brown paper, and between each filled sheet several empty ones should be placed; for the first day or two the pressure should be only just sufficient to prevent the leaves and flowers from shrivelling. When the papers are damp, the plants should be shifted to dry ones, increasing the pressure after every change till the specimens are perfectly dry. —*Ibid.*

*Dissolving Bones in Sulphuric Acid for the Purposes of Manure.*—On the publication of the first experiments by the Duke of Richmond, Mr. Geddes, Dr. Monson, and Mr. M'William, in the Journal of the Royal Agricultural Society, and by Mr. Hannam, in his Prize Report on Special Effects of Manures to the Highland Agricultural Society of Scotland, Mr Pusey expressed his opinion that they afforded "good hope" that the discovery would enable us to realize the most important saving ever yet held out in the use of manure. For this opinion, treason as it was to the existing order of affairs, Mr. Pusey could not hope to escape the ridicule and the indignation of the prejudiced and the interested. The theory of Liebig was declared to be "far-fetched and unworthy of credit," and the experiments "evidently unfair;" and thus divested alike of theoretical and practical evidence, his suggestion was freely offered to be "taken for what it was worth—

> 'A pin, a nut, a cherry-stone.'"

Mr. Pusey, however, afterwards laid before the Council of the Royal Agricultural Society, some extracts from Mr. Hannam's unpublished Essay on the Theory of the Action of Bones on the Turnip Crop, having reference to what he termed the "great discovery of the economical employment of dissolved bones;" and stated that it contained, in his opinion, "not only a detailed account of the best experiment ever made in agriculture, but some points of so much importance, that he felt anxious that not a moment should be lost in communicating the facts to the members." And this is the mode in which his cause was then spoken of:—"The day of Chartist regeneration, of Johanna Southcote, of flying machines, of South Sea schemes, nay of Cæsarian Cow Cabbage, is gone, and the lion of 1845 is 'bones dissolved in acid.' Every season has its lions. The world of politics, of religion, of science, of speculation, and even of poor agriculture, has now and then bubbles cast upon its surface—so varied, so resplendent with glittering embellishments, that the eager hand grasps the bubble, and it bursts and dissipates in nothing but '*thin air.*'" And then came the application of the figurative imagery of the oracle—the practical *morale* of the prophecy—"Will any one be found who will risk a crop upon the evidence?" In less than twelve months from the issuing of this oracular denunciation, we find the theory which was to "dissolve and dissipate into thin air," recognized as a thing clearly established—supported by the evidence of scores of crops risked in its trial, and recorded in every agricultural periodical in the kingdom. This result, we say, is agreeable to us, and to every lover of true progress, not merely because of its practical usefulness, but also because it thoroughly justifies those who have labored through such difficulties, in the search of what has now proved a scientific and practical truth.—*Lond. Ag. Gaz.*

# Editor's Table.

CONTEMPLATED MISSION TO THE EAST.—From a letter to Hon. Charles J. Ingersoll, by Aaron H. Palmer, Esq., of this city, it appears that a memorial is about to be submitted to the Senate of the United States, in favor of a Special Mission to be sent by our Government to the Comoro Islands, Abyssinia, Persia, Burmah, Cochin-China, the Indian Archipelago, and Japan, for the purpose of making treaties, and to open and extend our commercial intercourse with those countries. Mr. Palmer is favorably known to the public as Director of the American and Foreign Agency, at New York, and for several years has devoted much attention to the resources of Japan and other countries of the East, and we trust that if Congress should carry out the views of the memorialists referred to above, no better man can be found to take charge of that Mission. In speaking of the products of Abyssinia in his letter to Mr. Ingersoll, he says, that "a late scientific English traveller in that country states, that the *Gondar* cotton, indigenous to the elevated regions of Ethiopia, is of a fine long silky staple, of a quality equal, if not superior, to the American Sea-island. The Southern Islands of Japan teem with most of the productions of the tropics, whilst the Northern yield those of the temperate zones. The mountains abound in mineral wealth of every description, and the volcanic regions in sulphur. In agriculture, they are very diligent and successful. The whole country is highly cultivated, producing rice, esteemed the best in Asia, wheat, barley, beans of all sorts, culinary vegetables, a great variety of fruits, and flowers of the most brilliant hues and exquisite fragrance. The mulberry is reared solely for the silkworm. The principal object of cultivation next to rice, is the tea plant; tea being the universal beverage of all classes, as in China. Their gardeners possess the skill of dwarfing and gigantifying trees and shrubs. The rivers, lakes, and seas, abound in a great variety of fish, which is the principal food of the inhabitants.

"Mons. Isidore Hedde, an *attaché* of the late French Mission to China, who was sent out to make researches in the silk department regarding mulberries, silkworms, and the manufacture of silks, has attentively observed the mode of cultivation, seeding, planting, and grafting those interesting trees; and examined at the different establishments the ingenious apparatus for avoiding double cocoons; the simple process for reeling the peculiar fine white silk, and the well-known seven-cocoon thread; and the several processes of dyeing silk, and weaving, painting, embroidery, and sewing, of the singularly woven figured silk, exhibiting figures of men, flowers, gardens, &c., peculiar to *Sûchau*, the Lyons of Eastern China. Mons. Hedde has also made a collection of silkworms' eggs, mulberry trees, and the *ma* plant, from which the fine grass cloth is made, together with drawings and pictures, apparatus, and looms. He intends to publish an account of his interesting excursion, and give translations of the different Chinese works on mulberry trees, the rearing of silkworms, and weaving of silk, on his return to France.

"Robert Fortune, Esq., the English Naturalist, who was sent out to China about three years since, by the Horticultural Society of London, has been eminently successful, and has already sent to the Society about 90 cases of living plants, besides a large collection of dried specimens of plants and animals."

STRAWBERRIES.—The editors of the Annapolis Republican have received some strawberries weighing 40 to the pound, from Mrs. Jefferson Dorsey, of Arundel county. Can any of our fair readers show larger ones?

IMPORTATION OF AYRSHIRE CATTLE.—Mr. John O. Colt, of Paterson, New Jersey, has just imported from Scotland, per ship Europe, one Ayrshire bull, four years old, and three Ayrshire cows, three years old. These animals were selected for him by Mr John Tenant, of Shields, Ayrshire, who selected those imported last fall by the Massachusetts Agricultural Society. They are said to be among the best that could be procured, and were chosen with special reference to their dairy qualities. The bull is a prize animal, and cost £40 in Ayrshire. The cows cost £20 each. Two bull calves were dropped on the voyage. Every one of these animals was in fine condition on landing—indeed, we never saw any brought out so well before—they have scarcely a scratch or bruise about them. These animals are of medium size, and very fine for the breed. The bull is the most perfect Ayrshire we ever saw, and in his general points would do credit to a Short-Horn. We trust that they will be an improvement to the dairy stock of the country.

CATTLE FOR THE BOSTON MARKET.—Ten magnificent fat cattle passed through this city on Saturday, for the Boston market. They were from the farm of James S. Wadsworth, of Geneseo. All who saw them agree in the opinion that they were the finest specimens of beef cattle ever seen in this city. They went east on the cars this morning. The Bostonians will hold themselves in readiness for Western New York beef.

The following are their weights :—

| | | |
|---|---|---|
| One ox seven years old | 2,465 | lbs. |
| Two ditto six years | 4,865 | " |
| Two steers, three years old | 3,965 | " |
| Two ditto four years | 3,365 | " |
| One single steer | 1,725 | " |
| One ditto, white | 1,790 | " |
| One cow | 1,585 | " |
| Total | 19,760 | |

—*Rochester Dem.*

THE BOOK OF GOOD EXAMPLES.—Drawn from authentic History and Biography; designed to illustrate the beneficial effects of virtuous conduct. By John Frost. D. Appleton & Co., 200 Broadway. Pp. 288, with engravings. Price $1. This is an excellent work to be placed in families, abounding, as it does, with exemplary matter, designed to exercise a salutary influence on all who may peruse its contents.

THE FRUIT CULTURIST.—Adapted to the climate of the Northern States; containing directions for raising young trees in the Nursery, and for the management of the Orchard and Fruit Garden. By John J. Thomas. Mark H. Newman, publisher, 199 Broadway, N. Y. Pp. 220, 12mo. Price 62½ cents. The author of the above little work has long been known to the public as one of our best writers upon agriculture generally, and the culture of fruits more particularly. In the Culturist he has embodied the results of many years of practical experience in his own nursery and garden; we can therefore recommend it with more confidence than we should otherwise be disposed to do. In running our eye over the contents, we noticed a few errors, but these are of so trivial a kind as not to detract from the general merits of the work. We keep the book on our shelves, and trust it may have an extensive sale. We should have noticed it earlier, but have only just received a presentation copy.

BOOK-KEEPING BY SINGLE ENTRY.—By James Arlington Bennet. For sale by Saxton & Miles, 205 Broadway. Price $1,50. This is a good system of book-keeping for the farmer, being more easily comprehended than that by double entry. The work abounds with familiar examples, thus enabling every person to be his own teacher in this system of keeping accounts.

JULY MEETING OF THE EXECUTIVE COMMITTEE OF THE N.Y. STATE AG. SOCIETY.—To the gentlemen composing the Executive Committee of the New York State Agricultural Society:—

At the coming meeting on the second Thursday in July, much important business will be brought before you, and I hope that every member of the Committee will make it convenient to attend at that time, for it is very desirable there should be as full an attendance as possible. J. M. SHERWOOD, *President.*

*Auburn, June 16th*, 1846.

SHOW OF THE HORTICULTURAL SOCIETY OF LONG ISLAND.—The first Show of flowers, fruits, and vegetables, of this Society, for this year, was held at Flushing, on the 11th and 12th of last month. Owing to the lateness of the season, the exhibition was not so large and varied as last year; but such things as were brought forward were choice of their kind, and gave general satisfaction to the numerous visitors present. Messrs. Valk & Co. exhibited a choice collection of green-house plants, roses, &c., and some sweet-water grapes; Messrs. Parsons & Co., Winter & Co., and Prince & Co., each, a large collection of roses, among which we noticed la Reine, and other superb French varieties—also other flowers in abundance; Mr. Joseph Bloodgood, Jr., a pretty assortment of fuchsias, mostly new varieties, also some early vegetables; Messrs. Thorburn & Co., exotic plants; Mr. Russel, seedling pelargoniums, roses, and cinerarias; Mr. A. C. Smith, lemon trees, loaded with fruit; Mr. Huntsman, a varied and delicious assortment of large strawberries; Judge Strong, choice winter pears, &c.; Messrs. John A. King and Wm. H. Schermerhorn, sovereign potatoes of a superior early kind, and other vegetables. Many other persons, whose names we did not learn, showed more or less vegetables, fruits, and flowers.

The next exhibition of the Society will take place in Brooklyn early in September next. We shall look for a superb show then, and have no doubt it will be numerously attended. We wish a New York Horticultural Society could be formed to hold three annual exhibitions in this city; one the last of March for green-house plants; one in June for summer fruits and flowers; and one early in September for such as perfect in autumn. Such a Society properly got up and conducted, might be as instrumental for good in the Middle States, as the Massachusetts Society is to those at the North.

THE AMERICAN FLORA.—By A. B. Strong, M. D. Published by Strong & Bidwell, 162 Nassau Street, New York. Price $3 a year, or 25 cents a number. This is a monthly publication, the first four numbers of which have been issued, each containing five beautifully colored engravings, executed in a manner creditable to the author, and cannot fail in securing an extensive circulation.

WANDERINGS UNDER THE SHADOW OF MONT BLANC AND THE JUNGFRAU.—By George B. Cheever, forming Nos. VI. and XI. of the Library of American books, published by Wiley & Putnam, 161 Broadway. Price 50 cents each. Anything from the pen of Mr. Cheever is sure to command attention, as he has a pleasing and original way of treating all subjects on which he writes. These delightful volumes have interested us more than any others we have yet seen, from his ready pen. Perhaps it was the subject and the scenes which lent their charms throughout the perusal.

THE ALPS AND THE RHINE.—By J. T. Headley, being No. X. of Wiley & Putnam's Library of American Books. Price 50 cents. Everything touched by this writer has so much spirit and life infused into it, that he is sure to carry the reader away with him, wander where he will. No traveller can be more graphic and picturesque than Mr. Headley in his descriptions.

DICK'S WORKS.—Eight volumes in four, making 3,035 pages. Price $2.50 for the whole work. E. C. & J. Biddle, Philadelphia. We hail with great pleasure the reprint of these valuable works by one of the most eminent moral philosophers of the age. All the subjects of these volumes are illustrated by science, and treated in a style so simple and familiar, as to make them easily comprehended by the plainest understanding. The peculiar trait of Dr. Dick's mind is benevolence, and this he shows to be the design of the Deity in all his works; if anything runs contrary to this, it is obviously the fault of the created, and not of the Creator.

THE STANDARD PRONOUNCING DICTIONARY OF THE FRENCH AND ENGLISH LANGUAGES: in two Parts. Part I. French and English. Part II. English and French. The First Part comprehending Words in common use; Terms connected with Science; Terms belonging to the Fine Arts; 4,000 Historical Names; 4,000 Geographical Names; 11,000 Terms lately published. With the Pronunciation of every Word, according to the French Academy and the most Eminent Lexicographers and Grammarians; together with 750 Critical Remarks, in which the various Methods of Pronouncing employed by Different Authors are investigated, and compared with each other. The Second Part containing a Copious Vocabulary of English Words and Expressions, with the Pronunciation according to Walker. The whole preceded by a Practical and Comprehensive System of French Pronunciation. By Gabriel Surenne, French Teacher in Edinburgh; Corresponding Member of the French Grammatical Society, &c., &c., &c. New York: D. Appleton & Co., 200 Broadway. Pp. 834, 12mo. Price $1.50. No Dictionary of the French Language has ever been issued from the American press, which will bear a comparison with this excellent, and we may truly say, classical work of M. Surenne. It appears to be well got up; and, as we understand, is printed from the original stereotype plates.

OHIO WINE.—From an elaborate Report, presented to the Horticultural Society of Cincinnati by Dr. Flagg, it appears that there are seventy-eight vineyards in Hamilton county, Ohio, of which more than fifty are cultivated by Germans. About 200 acres are planted with the grape, of which 100 are in bearing order. The amount of wine made last year exceeded 22,000 gallons, notwithstanding more than one-half the crop was cut off by the frost and rot, and many of the vineyards are but just coming into fruit. The average yield of wine per acre, for five years in succession, is estimated at 450 to 500 gallons, which sells quick at $1 to $1.50 per gallon. There will be at least one hundred acres more put down to grapes this spring, making three hundred in all, in Hamilton county. There are also eight or ten vineyards in Kentucky, within a dozen miles of this city. The varieties of grape generally cultivated are the Catawba and the Cape; the latter is called at the East, the Schuylkill Muscadel, and furnishes the red wine. That from the Catawba is white, and sells the highest. The Isabella, so popular at the East, is universally thrown up here, as unsuited to the climate.—*Cincinnati Gazette.*

PREVENTION OF THE BEE-MOTH.—The bee-moth may be effectually destroyed by placing, during their active season, near the hives, a few basins of honey and water (made weak) after night-fall, and removing early in the morning. They are attracted to it and drowned.

THE REPORT OF THE COMMISSIONER OF PATENTS, FOR 1845, has been received, and will be particularly considered in our next number.

## REVIEW OF THE MARKET.

### PRICES CURRENT IN NEW YORK, JUNE 22, 1846.

| | | | | |
|---|---|---|---|---|
| ASHES, Pots, | per 100 lbs. | $3 50 | to | $3 56 |
| Pearls, | do. | 4 06 | " | 4 12 |
| BALE ROPE, | lb. | 5 | " | 7 |
| BARK, Quercitron, | ton, | 22 00 | " | 24 00 |
| BEANS, White, | bush. | 1 12 | " | 1 25 |
| BEESWAX, Am. Yellow, | lb. | 28 | " | 33 |
| BOLT ROPE, | do. | 12 | " | 13 |
| BONES, ground, | bush. | 40 | " | 55 |
| BRISTLES, American, | lb. | 25 | " | 65 |
| BUTTER, Table, | do. | 16 | " | 25 |
| Shipping, | do. | 9 | " | 13 |
| CANDLES, Mould, Tallow, | do. | 9 | " | 11 |
| Sperm, | do. | 25 | " | 38 |
| Stearic, | do. | 20 | " | 25 |
| CHEESE, | do. | 5 | " | 10 |
| COAL, Anthracite, | 2000 lbs. | 5 00 | " | 6 00 |
| CORDAGE, American, | lb. | 11 | " | 12 |
| COTTON, | do. | 6 | " | 11 |
| COTTON BAGGING, Amer. hemp, | yard, | 13 | " | 14 |
| Kentucky, | do. | 12 | " | 13 |
| FEATHERS, | lb. | 25 | " | 34 |
| FLAX, American, | do. | 8 | " | 9 |
| FLOUR, Northern and Western, | bbl. | 4 00 | " | 4 25 |
| Fancy, | do. | 4 87 | " | 5 12 |
| Southern, | do. | 3 50 | " | 4 25 |
| Richmond City Mills, | do. | 6 00 | " | 6 25 |
| Rye, | do. | 2 50 | " | 2 75 |
| GRAIN—Wheat, Western, | bush. | 90 | " | 1 00 |
| Southern | do. | 80 | " | 90 |
| Rye, | do. | 63 | " | 64 |
| Corn, Northern, | do. | 55 | " | 60 |
| Southern, | do. | 50 | " | 51 |
| Barley, | do. | 45 | " | 47 |
| Oats, Northern, | do. | 34 | " | 35 |
| Southern, | do. | 26 | " | 28 |
| GUANO, | do. | 2 00 | " | 3 00 |
| HAY, in bales, | 100 lbs. | 45 | " | 50 |
| HEMP, Russia, clean, | ton. | 215 00 | " | 225 00 |
| American, water-rotted, | do. | 105 00 | " | 185 00 |
| American, dew-rotted, | do. | 75 00 | " | 125 00 |
| HIDES, Dry Southern, | do. | 7 | " | 8 |
| HOPS, | lb. | 18 | " | 25 |
| HORNS, | 100. | 1 00 | " | 7 00 |
| LEAD, pig, | do. | 4 12 | " | 4 25 |
| Sheet and bar, | lb. | 4 | " | 5 |
| MEAL, Corn, | bbl. | 3 00 | " | 3 25 |
| Corn, | hhd. | 15 50 | " | 16 00 |
| MOLASSES, New Orleans, | gal. | 28 | " | 31 |
| MUSTARD, American, | lb. | 16 | " | 31 |
| NAVAL STORES—Tar, | bbl. | 1 50 | " | 1 75 |
| Pitch, | do | 1 00 | " | 1 06 |
| Rosin, | do. | 50 | " | 58 |
| Turpentine, | do. | 3 50 | " | 4 00 |
| Spirits Turpentine, Southern, | gal. | 28 | " | 31 |
| OIL, Linseed, American, | do. | 60 | " | 62 |
| Castor, | do. | 60 | " | 73 |
| Lard, | do. | 60 | " | 65 |
| OIL CAKE, | 100 lbs. | 1 75 | " | 1 88 |
| PEAS, Field, | bush. | 1 50 | " | 2 00 |
| PLASTER OF PARIS, | ton. | 2 38 | " | 3 00 |
| Ground, in bbls., | of 300 lbs. | 1 12 | " | 1 25 |
| PROVISIONS—Beef, Mess, | bbl. | 6 50 | " | 9 00 |
| Prime, | do. | 4 50 | " | 5 50 |
| Smoked, | lb. | 6 | " | 9 |
| Rounds, in pickle, | do. | 4 | " | 6 |
| Pork, Mess, | bbl. | 10 00 | " | 13 00 |
| Prime, | do. | 7 88 | " | 9 00 |
| Lard, | lb. | 6 | " | 7 |
| Bacon sides, Smoked, | do. | 3 | " | 4 |
| In pickle, | do. | 3 | " | 4 |
| Hams, Smoked, | do. | 6 | " | 10 |
| Pickled, | do. | 4 | " | 7 |
| Shoulders, Smoked, | do. | 5 | " | 6 |
| Pickled, | do. | 4½ | " | 5 |
| RICE, | 100 lbs. | 3 12 | " | 4 00 |
| SALT, | sack, | 1 22 | " | 1 38 |
| Common, | bush. | 20 | " | 35 |
| SEEDS—Clover, | lb. | 6½ | " | 9 |
| Timothy, | 7 bush. | 16 00 | " | 16 00 |
| Flax, clean, | do. | 10 00 | " | 11 00 |
| rough, | do. | 9 00 | " | 10 00 |
| SODA, Ash, cont'g 80 per cent. soda, | lb. | 3 | " | 3 |
| Sulphate Soda, ground, | do. | 1 | " | — |
| SUGAR, New Orleans, | do. | 5 | " | 7½ |
| SUMAC, American, | ton, | 35 00 | " | 37 50 |
| TALLOW, | lb. | 7 | " | 8 |
| TOBACCO, | do. | 3 | " | 8 |
| WHISKEY, American, | gal. | 19 | " | 21 |
| WOOLS, Saxony, | lb. | 35 | " | 54 |
| Merino, | do. | 30 | " | 30 |
| Half blood, | do. | 25 | " | 35 |
| Common do | | 20 | " | 22 |

Remarks.—*Ashes* steady. *Cotton* fair sales. *Flour* dull. *Grain* of all kinds in good demand. *Hay* is plenty. *Molasses* of a prime quality scarce. *Naval Stores* nominal. *Provisions* little inquiry. *Seeds* inactive. *Sugar* lower prices, rule. *Tobacco* considerable sales. *Wool* little doing at this moment.

*Money* tolerably easy.

*Stocks* in fair demand.

*The Weather* has been warm and fine mostly the past month, and crops generally are looking extremely well. At the South the wheat harvest is over, and proves a good one. Corn there never promised better. Cotton is rather backward, but a good stand generally shows itself. Of other crops in that quarter we hear favorable accounts. The haying season has commenced at the North, and the yield of grass has not been so heavy for years. Wheat is suffering partially from the fly, but on the whole promises a good yield. The other crops here are looking well; though corn, owing to the abundant rains and cold weather late in May and early in June, is rather backward. Fruit is fairly abundant.

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To Correspondents.—Jacob N. Blakeslee, E. L., Lert, S., Henry W. Edwards, B. Franklin Clark, A Young Farmer, and Reviewer, are received.

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The American Herd Book.—Containing Pedigrees of Short-Horn Cattle. To which is prefixed a Concise History of English and American Short-Horns, compiled from the best Authorities. By Lewis F. Allen. From the press of Jewett, Thomas & Co., Buffalo. Pp. 240. Price $3.00. The late hour at which this long-expected work came to hand, renders it impossible for us to give more than a brief notice of it. It contains the pedigree of one hundred and thirty-seven bulls, and two hundred and forty cows, and is prefaced with the best and most valuable history of the Short-Horns ever yet published; correcting the egregious errors of Mr. Youatt in his work on British Cattle, and all his followers.

This Herd Book being the first of the kind ever attempted to be published in America, it has been a very laborious task to Mr. Allen to get the materials together for it. The first step having now been taken, it is to be hoped succeeding volumes may be written with less difficulty. It is as handsomely got up as the English Herd Book, and does both the auther and publishers much credit. Subscribers can have it by calling either at our office 187 Water Street, or at Saxton & Miles, 205 Broadway. It may also be had at Saxton & Kelts, Boston; James M. Campbell, Philadelphia; McCarter & Allen, Charleston, S. C.; D. Baker & Co., New Orleans; Nafis, Cornish & Co., St. Louis; Morton & Griswold, Louisville; W. H. Moore, & Co., Cincinnati; Whiting & Huntington, Columbus, Ohio; and

SAXTON & MILES, 205 Broadway, New, York.

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## IMPROVED BERGEN PLOW.

The subscriber has just received a lot of the above Plows, manufactured by B. Meyer, Newark, N. J.

A. B. ALLEN, 187 Water Street, N. Y.

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## PERUVIAN GUANO AT REDUCED PRICES.

The subscriber keeps this superior fertilizer constantly on hand for sale, in bags, barrels, half barrels, and kegs. It comes direct from the Agent of the Peruvian Company, and is warranted genuine and of a first rate quality.

| | |
|---|---|
| Five tons and over | 2 cents per lb. |
| One ton and under five tons | 2 1-8 do. |
| Half a ton and under one ton | 2 1-4 do. |
| Under half a ton | 2 1-2 do. |

This Guano is packed in bags weighing from 190 to 150 lbs.; barrels, from 220 to 250 lbs.; half barrels from 115 to 130 lbs; kegs about 60 lbs. each. When a larger quantity than one ton is taken, it is expected it will be in bags. No allowance for tare, and no charge for packages. Cartage extra.

A. B. ALLEN, 187 Water Street, N. Y.

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## AYRSHIRE BULLS.

The Subscriber has one three-year old Ayrshire bull for sale, price $100; also, one three months old, price $30. They are bred from stock imported by himself, from the best breeds in Scotland. It is believed that they have no superiors in the United States.

R. S. GRISWOLD.

Lyme, Conn.

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## FOR SALE.

A full blooded Narragansett, *entire* horse. This breed has been in the family of the late Governor Jay, for the last century. They are *rackers*, and not *pacers*. He is 8 years old, and the only *entire* horse of the breed which is left. He is very fast, will rack his mile within 3 minutes. Horses of this breed are highly esteemed as saddle horses for ladies and gentlemen, and bring a very high price. Apply to James R. Dey, No. 51 Liberty Street, New York.

## IMPORTATION OF ALPACAS.

Societies, or individuals, contributing funds for the importation of the Alpaca from Peru into the United States, will be entitled to such share of the animals on their arrival as will correspond proportionately with the sums of money which shall or may have been invested by them. In case such fractions shall exist as will not allow an equitable division of the Alpacas to be made, a requisite number of the animals will be sold at public auction, and the net proceeds be divided among the contributors in proportion to the original amounts paid in.

All persons disposed to encourage this enterprise, are invited to forward the amount of their subscription to A. P. Halsey, Cashier of the Bank of New York, and Treasurer of the American Agricultural Association, at 48 Wall Street, N. Y.

EDWARD CLARK,
June 22, 1846. Chairman of Committee for Importation.

## PATENT SYRINGES AND GARDEN ENGINES.

Manufactured and improved by M. Pool, and sold at the New York Agricultural Warehouse. Price of Syringes from $4 to $6. Garden Engine from $25 to $30.

A. B. ALLEN, No. 187 Water Street, N.Y.

## NEW YORK AGRICULTURAL WAREHOUSE.

Farmers, Planters, and Gardeners, will find the LARGEST AND MOST COMPLETE assortment of Agricultural Implements of all kinds, at this Establishment, ever offered in the New York Market. Most of these Implements are of new and highly improved patterns, warranted to be made of the best materials, put together in the strongest manner, of a very superior finish, and offered at the lowest cash prices.

Among these implements are upwards of FIFTY different kinds of Plows manufactured by Ruggles, Nourse & Mason, of Worcester, Mass., also in New York—for the South as well as for the North; Harrows of different patterns and sizes; Rollers of wood and cast-iron on a new principle; Seed Sowers for all kinds of seeds, a recent invention; Cultivators, with different kinds of teeth; Horse powers of wood or of cast-iron, very strong and superior; Grain Threshers; Fanning Mills; Mills for grinding corn, &c., a new invention; Corn Sheller for hand or horse power, the latter shelling 200 bushels of ears per hour; Vegetable Cutters, will cut a bushel of roots for cattle in two minutes; Hay, Straw, and Corn-stalk Cutters; Scythes, Rakes, Shovels, Spades, Hoes—indeed, Field and Garden tools of all kinds.

*Castings* for the various kind of Plows manufactured in Worcester and New York.

*Seeds for the Farmer and Gardener.*—A choice assortment of the various kinds. such as Improved Winter and Spring Wheat, Rye, Barley, Oats, Corn, Beans, Peas, Rutabaga, Turnip, Cabbage, Beet, Carrot, Parsnip, Clover and Grass Seeds, and improved varieties of Potatoes.

*Wire-Cloths and Sieves.*—Different kinds and sizes constantly on hand.

*Fertilizers.*—Peruvian and African Guano, Bone-dust, Lime, Plaster of Paris, &c.

*Fruit and Ornamental Trees and Shrubs.*—Orders taken for these, and executed from a choice of the best Nurseries, Gardens, and Conservatories in the United States.

*Horses, Cattle, Sheep, and Swine.*—Orders executed for Stock of all kinds, to the best advantage.

*A Descriptive Catalogue.*—This will be sent to any one *gratis*, upon application, *post-paid*, to the subscriber. It comprises 80 pages, and is illustrated with a great variety of wood cuts.

*The American Agriculturist Almanac.*—32 pages, with wood cuts. Price $15 per thousand.

*Agricultural Books.*—A general assortment of all kinds.

A liberal discount made to dealers.

A. B. ALLEN, 187 Water Street, N.Y.

## DURHAM STOCK FOR SALE.

The Subscriber has on his farm near this city, more stock than he needs, and will sell two, two-year old, and two yearling heifers, one yearling bull, and four spring calves. The price of the latter will be from $50 to $75, when about 3 months old, and the price of the yearlings and two-year olds will be from $100 to $125. This young stock was got by the bulls Duke of Wellington and the prize bull Meteor, both possessing the blood of the herd of the celebrated breeder, Thomas Bates, Esq., of Yorkshire, England. This stock is out of first-rate milking Durham cows, and will carry its own recommendation. GEO. VAIL.

*Troy, June 1st*, 1846. 2t

## POUDRETTE FOR SALE.

The Lodi Manufacturing Company offer Poudrette for sale at the following prices. At the Factory on the Hackensack River, 4 miles from New York in bulk, 35 cents per bushel, and $1.63 cts. per barrel. Delivered in New York from 1 to 6 bbls., $2 00 per bbl.; 7 bbls. and over, $1.75 per bbl. Apply to the office of the Company, 51 Liberty Street, or to A. B. Allen, 187 Water Street, where printed directions and other information may be obtained.

May, 2t

## DURHAM BULL FOR SALE.

Not having sufficient use for him, the subscriber offers for sale his thorough bred imported bull, Prince Albert. His sire was the celebrated bull, Sir Thomas Fairfax, and his pedigree can be seen, in the British Herd book, Vol. 4, page 382. He is five years old, a red roan, of medium size, and of quiet temper. If not previously disposed of, he will be offered for sale at the next show of the New York State Agricultural Society.

Letters on the subject can be addressed to the subscriber at Red Hook, Dutchess County, New York, where the bull may be seen.

ROBERT DONALDSON.

## THE AMERICAN AGRICULTURIST.

Published Monthly, by SAXTON & MILES, 205 Broadway, New York, containing 32 pages, royal octavo.

TERMS—One Dollar per year in advance; three copies for Two Dollars; eight copies for Five Dollars.

When Agricultural Societies order the work for distribution, among the members, the price will be only FIFTY CENTS a year, for the Monthly Numbers, and SEVENTY-FIVE CENTS per copy for bound volumes. It will be expected that these orders come officially, and be signed by the President or Secretary of the Society. The object in putting our periodical at this very low rate is, to benefit the farming community more extensively than it could otherwise be done. We hope, henceforth, to see the Agriculturist in the hands of every Farmer and Planter in the country.

Each number of the Agriculturist contains but One sheet, and is transported by mail under the same regulations as newspapers, viz.: *free* any distance not over 30 miles from its place of publication; over this and within 100 miles, or to any town in the State of New York, *one cent* postage on each number, and *one and a half cents* if over 100 miles, without the State.

Back Volumes of THE AMERICAN AGRICULTURIST, with tables of contents complete, for sale at $1.00 each; elegantly and uniformly bound in cloth, $1.25. These are handsome, tasteful books, and make very desirable premiums for distribution with Agricultural Societies, and should also find place, in all our District School Libraries. They constitute the best and most complete treatise on American Farming, Stock-Breeding and Horticulture, extant. When several copies are ordered, a liberal discount will be made.

Editors of newspapers noticing the numbers of this work monthly, or advertising it, will be furnished a copy gratis, upon sending such notice to this office.

## GUANO.

The Subscribers offer for sale, on very accommodating terms, the balance of the ship Shakspeare's cargo, the only direct importation into this port from Ichaboe. Much guano from other parts of Africa has been sold as Ichaboe, which on trial has produced unfavorable results. To prevent the loss of ammonia, this cargo has been put in air-tight casks. Apply to

Feb. 6, 1846. E. K. COLLINS & CO., 56 South St.

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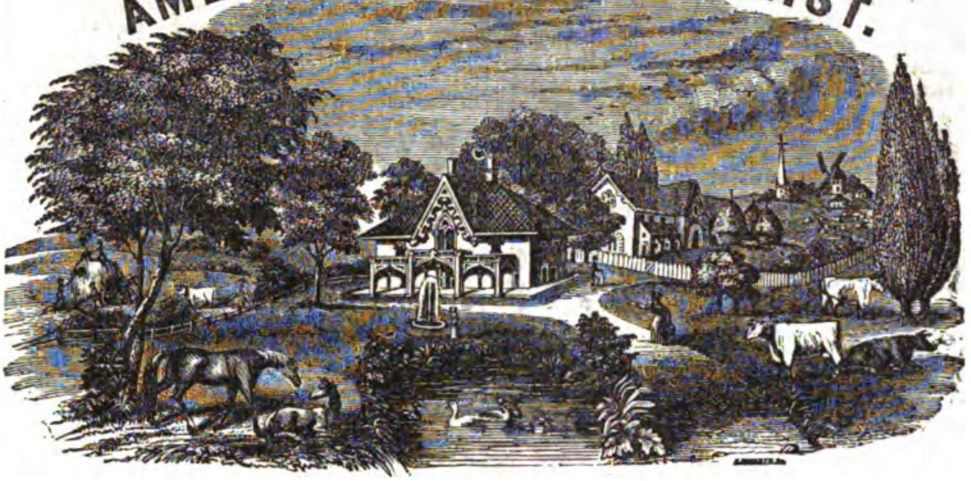
# AMERICAN AGRICULTURIST.



*Agriculture is the most healthful, the most useful, and the most noble employment of man.*—WASHINGTON.

**VOL. V. NEW YORK, AUGUST, 1846. NO. VIII.**

A. B. ALLEN, Editor. SAXTON & MILES, Publishers, 205 Broadway.

## TO POSTMASTERS.

MANY of the Postmasters throughout the Union do not seem to know that letters on *Post-office business* go free. It is only necessary to mail the letter unsealed, and write outside upon it "P. O. Business," with the name of the Postmaster, and where mailed. For example, if a paper has a wrong direction, or it be refused, or anything of the kind takes place, by following the above directions, we can be informed of the facts without taxing us with postage. Postmasters ought, in all cases, to make themselves acquainted with their privileges. We trust that those unacquainted with the law will excuse this paragraph, as we have frequently had to pay postage on their letters, when they could have gone free.

## DO NOT MIX YOUR POTATOES.

PERHAPS it may not be known to every person who raises potatoes to sell, that, in the New York markets, there is one half difference in the price. This is not always owing to the superiority of one variety over another, but the fancy or preference of the buyer for his favorite kind. Some are partial to the pink eyes—some to the kidneys, while others prefer the carter, the black, Dikeman's seedlings, blue noses, lady's fingers, &c., all of which have their excellences, and when brought to market by themselves, will always be sure to find a ready sale; but when mixed, one with the other, many housekeepers will not buy them at all. We had many orders last spring for particular kinds of seed-potatoes; and, in many instances, had much trouble in selecting the varieties required; and in one or two cases, we were obliged to sort out the kinds wanted, in the hold of a vessel. We cannot too earnestly enjoin upon all growers of this inestimable vegetable to cultivate each variety on a separate piece of ground, or to sort them at the time of digging, which will be attended with a very little additional expense, but will well compensate them for their trouble.

## FRENCH MODES OF DRYING PEARS.

IN France, pears are dried two ways—one, for family use, by putting them into an oven, without being pared, after the bread is withdrawn, either on bricks, or on raised frames of tin or boards. They are put in two, three, and even four times, according to their size, and to the degree of heat contained in the oven. The only things necessary to be observed, are, to see that the oven is not so hot as to burn the pears, and that they are not left in so long as to become hard. Melting sugary pears, of a medium size, are the best for this purpose; and, when properly prepared, they may be kept in bags, in a dry place, for several years. The second mode is that used for preparing the fruit sold in boxes, at the shops; and for this purpose, rather small pears are considered the best. They must be gathered before they are quite ripe, and care taken to preserve their stems. They are then parboiled in a very little water, peeled, and placed on dishes, with the stems upwards. In this state, a kind of syrup runs from them, which must be carefully poured off, and set aside. They are next placed on raised frames, and put into an oven, after the bread has been withdrawn, or heated to a similar degree, and left there twelve hours; after which they are taken out and steeped in syrup, sweetened with sugar, to which there have been added a little cinnamon, mace, and a small quantity of the best brandy. The pears, when taken out of the syrup, are again placed in the oven, which should not be made quite so hot as it was the first time. The operations of alternately steeping and drying are repeated three times, and are finished by putting the pears, for the fourth time, into the oven, and leaving them there till they are quite dry; when, if they have been properly treated, they will be of a clear, pale-brown, with fine translucent flesh. They are then arranged in boxes, garnished with white paper, and kept in dry places, or offered for sale. They will remain good, in this state, for three years, but are considered best the first year.

### NEW YORK FARMERS' CLUB.

At a late meeting of the Farmers' Club of the American Institute, Mr. Meigs read from the Annals of the Royal Horticultural Society of Paris, an extract from the Report of a Committee, relative to the progress of their gardener in

*Drying Cabbage Leaves*, with the view of preserving them, on long voyages, not only as an article of nourishment, but on account of their highly medicinal properties, in the prevention or cure of the scurvy. The leaves were cut into strips about four fingers wide, and placed on hurdles in a stove raised to a temperature of eighty-two degrees to one hundred and five degrees F., where they were kept for four days and as many nights, being turned during the time, only once or twice. They lost in the process of drying about two-thirds of their bulk, and seven-eighths of their weight. When prepared in this way, they harden if put into cold water; but if soaked in warm water in a covered vessel for about one hour, they will resume nearly the same condition as fresh leaves. They are then taken out of the warm water and boiled nearly one hour, when they will be completely cooked. If taken out and seasoned in various ways, there will be no appreciable difference between their odor or taste and those of cabbages freshly gathered. The leaves, when carried to sea, may be packed up in tight boxes, and kept in a dry place for many months.

*Mammoth Oats and Gooseberries.*—Mr. William J. Townsend presented stalks of Scotch Imperial Oats from his father's farm, at Astoria, which measured six feet, two inches and a half in length. The grain he represented to be good, weighing 43 lbs. to a bushel. Mr. Steele, of Jersey city, presented a branch of the English gooseberry, a foot long, containing 28 perfect berries, some of which measured three and a half inches in circumference.

*Protection of Crows and other Insectivorous Birds.*—Mr. Turrel presented a report of some humorous remarks lately made by the Hon. Mr. Preston, in the Legislature of New Hampshire, on the subject of the useful habits of the common crow (*Corvus corone*) in destroying insects.

Mr. Skinner stated, that, in Alabama, a planter had a pair of crows, with their wings clipped, which very dexterously cleared his garden of a troublesome vermin called craw-fish (land crabs), in seizing them in the act of entering their burrows, and immediately destroying them.

Mr. Samuel Allen said that he was much pleased with the crow case in New Hampshire, and that these birds, as well as all others, that devour insects, are most important aids to us in the preservation of our crops, and should be protected rather than destroyed.

*Insects injurious to Vegetation.*—Mr. Van Wyck said that we ought to make ourselves thoroughly acquainted with the habits of insects, in order to carry on our agricultural operations with success; that their numbers are annually increasing, and many new species have appeared hitherto unknown to naturalists; and that accurate descriptions of them should be obtained and published.

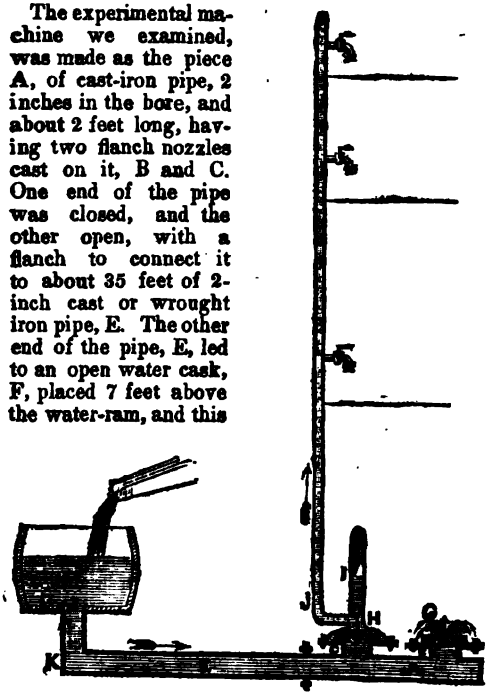
Mr. J. C. Parsons presented specimens of the ordinary squash-bug (*Coreus ordinatus*, of Say), which he collected in Mr. Wakeman's garden. These well-known enemies to the squash-vine, issue from their winter retreats soon after the plant has put forth a few rough leaves, under which they take shelter, pair, and shortly afterwards begin to lay their eggs. During the day time, at this period, by carefully examining the vines, close to the ground, we find these insects, apparently lying there to escape observation; but at night, they crawl on the under sides of the leaves, where they deposit their eggs in little patches, securely fastening them with a species of gum or glue. The eggs, which are round and flattened on two sides, are soon hatched, and the young bugs are somewhat shorter and more rounded in proportion, than the adult insects, and are of a pale-ash color. As they increase in age and size, after casting their skins several times, they assume a more oval form, and their under sides gradually become of a dull ochreous yellow. At first they subsist together in small families, by puncturing the under sides of the leaves upon which they were hatched, and which, in consequence of the quantity of sap imbibed by them, soon begin to wither, and finally become wrinkled, dry, and brown. As the eggs are laid at successive periods, the young broods will consequently be found in various stages of growth throughout the summer. They do not attain their full size, however, and appear perfectly furnished with wings and wing-covers, before the months of September and October, soon after which they desert the vines and conceal themselves in the crevices of walls, the bark of trees, or other places of security, where they pass the winter in a torpid state, and on the return of warm weather, at the putting forth of the squash leaves, they issue from their retreats, pair, lay their eggs, and continue their work of destruction.

The best preventive of the ravages of these insects, is to visit the vines daily at every period of their growth, and kill them before they begin to lay their eggs; but should any escape observation at this time, their eggs may easily be found and destroyed. A solution of green cow-dung and water, or similar preparations from the barn-yard, have been applied to the vines with success. Gas-water, obtained at the gas-works for lighting cities, diluted in six times the quantity of pure water, will also drive them away almost instantaneously. Ants, snails, slugs, &c., will not remain where it has been used. It may be objected that the smell is disagreeable, but this passes off quickly, while the effect in the ground remains, which may be proved by turning up the soil several days afterwards, when the smell will be nearly as strong as at first. Experiments with gas-water, as well as with coal-tar, should be made with precaution.

## SELF-ACTING MACHINE FOR RAISING WATER.

Our attention has been directed to an interesting article republished some time ago in the Farmer's Cabinet; and as it has elicited considerable attention from gentlemen who have a fall of water on their premises, and who would gladly avail themselves of a simple means for raising water to the top of their farm-houses, or to cisterns for supplying their barn-yards, or gardens, we feel that we shall gratify many of our readers by inserting a sketch of an experimental water-ram, made by one of our subscribers in this city, and which we examined with considerable interest. Its construction was so simple, that any of our readers may make one of these machines, and try further experiments at a trifling expense; while those who wish to have more perfect ones, can obtain all the requisite information relative to the outlay, by applying to Mr. J. Elgar, Baltimore, who has given his attention to the subject, and has made some important improvements. It will be necessary for applicants to state the perpendicular height the water falls, and the quantity which flows per minute; also the height and distance to which it is required to be raised—in order that we may be able to obtain the requisite information, and to furnish machines of Mr. Elgar's manufacture.

The experimental machine we examined, was made as the piece A, of cast-iron pipe, 2 inches in the bore, and about 2 feet long, having two flanch nozzles cast on it, B and C. One end of the pipe was closed, and the other open, with a flanch to connect it to about 35 feet of 2-inch cast or wrought iron pipe, E. The other end of the pipe, E, led to an open water cask, F, placed 7 feet above the water-ram, and this cask was supplied by a hose, at the rate of 8 gallons of water per minute. Of course the fall from the level of the water in this cask, is equal to a fall of 7 feet, with a stream giving 8 gallons a minute. To the flanch nozzle, B, was attached a brass spindle valve, G, inverting or opening into the nozzle. When this valve is held down, water can run through the seat of the valve, as shown in the sketch, but the tendency of water flowing rapidly through the pipe, E, and ram, A, would be to press the valve, G, against its seat, and close the opening; the water would then run out through the nozzle, C, but on this nozzle, C, an upward or lifting brass spindle valve, H, was attached, having a piece of 2-inch pipe, I, of about 2 feet in height, covering it. This pipe, I, was closed at the top, but had a lateral branch pipe, J, of one inch bore inserted into it above and near the valve, H. The pipe, J, formed the rising main through which the water to be raised had to ascend. The upper space in the pipe, I, acted as an air-chamber or air-cushion. In large machines, a vacuum valve is inserted in the end of this air-chamber, to supply any deficiency of air, but in this experimental machine it was omitted.



Water Ram.—Fig. 57.

The upright pipe, J, was 80 feet high, measured from the ram, or 73 feet above the level of the water in the supply cask. It was furnished with 3 outlet cocks at various heights. The object of these cocks was merely to ascertain the difference in the volume of water, which would be thrown up by the ram at different heights.

The action of the machine, as detailed in Mr. Latrobe's letter, may appear complicated to most of our readers; but, with the help of the diagram, we think it can be easily understood.

Having filled the water cask, F, the water runs down the pipe, E, and by the time it reaches the valve, B, it has acquired a momentum, which closes the valve, and the only escape is by the valve, C. Through this valve it rushes up into the air-chamber, I, and into the pipe, J. The momentum having been expended, the valve, B, falls, and a quantity of the water rushes out, through the open valve. The water again acquires a fresh momentum, closes the valve, B, and part of it again forces open the valve, C, increasing the column in the pipe, J. The fall and closing of the valves is like a smart blow of a hammer, and they close and open with great precision. In the machine we saw, the strokes were 70 each minute, and plainly heard at the distance of 150 feet. In the course of two or three minutes, the pipe, J, became full, and ran over at the top. On measuring the quantity of water which was thus thrown up in 312 minutes, 73 feet above the level in the water cask, it was found to be 4 gallons; and as during the 12 minutes, 96 gallons of water had passed from the water cask, into the ram, it appears, that it required 23 gallons of water to raise one gallon to 10½ times its own height.

The experiment was continued, and the same quantity of water, 4 gallons, was thrown up 66 feet high, in 11 minutes; 53 feet high in 7 minutes, and 42 feet high in 4 minutes. Thus, in the last trial, the machine required 28 gallons of water to throw up 4 gallons to 6 times the height of the fall. It would have been easy to have made the head of water 10, 20, or 30 feet high, and a series of interesting experiments might be made, to ascertain experimentally the relative differences in the momentum of the water descending from a greater or less distance; the fall of 7 feet, however, was preferred, in order to give the machine the ability to throw up water to more than ten times the height of the fall, a difference which would not often occur. Whether a fall of 70 feet instead of 7 would have thrown up the same relative quantity of water 420 feet, is a question we confess we are not able to solve.

The pipe, E, it is found, must be 30 or 40 feet long, or the valve, G, will not work; almost all the water ran out of it, when the water cask was put directly over the ram. The valve made 50 strokes in a minute. It is not necessary to have the pipe E a perfectly straight one, but it may be bent to suit the inequalities of the ground, and may even be bent at right angles, as shown in the sketch at K.

## FARM AND VILLA OF MR. KING.

High-Wood, the residence of James Gore King, Esq., is situated on the west bank of the Hudson, about two miles above Hoboken. The estate contains 100 acres, nearly half of which is under tillage. The residue is in ornamental grounds, more wild and beautiful than one can imagine, who has not visited them. The cliffs of dark trap-rock crowned with a great variety of forest shrubs, and trees, laved by the waters of the river, rise perpendicularly 180 feet above the Hudson. The house stands still 20 feet higher, and commands the finest possible views of the city of New York, the bay, and the adjacent country.

Notwithstanding the coldness of the soil, and its thick studding of rocks, High-Wood was originally covered with a great variety of trees. Whatever of these were necessary to give beauty to the place, Mr. King has retained, and with much good taste planted out others indigenous and exotic, thus forming one of the best arboretums we know in the United States. In addition to these, on many of the cleared spots, he is cultivating fruit trees extensively. Among these we found at least fifty choice varieties of pears, and other fruits in proportion; besides several hundred peach trees, all of which seemed to be doing well. He is now trying the experiment of cultivating the Black Hamburg and other European grapes in the open air, by placing the glass frames of his hot beds over them, as soon as they can be dispensed with in the spring, as coverings for the vegetables. The range of greenhouses is extensive, and well filled with fruits and plants. Insects have seldom proved injurious to the trees here, in consequence of the birds being strictly guarded from destruction and annoyance of every kind. The crows, even, are so tame that they build their nests and rear their young, near the house. They destroy immense numbers of insects.

Few would have the hardihood to undertake the culture of the table land of High-Wood; but as Mr. King does not spare his means, and is gifted with no small share of perseverance, he has at length succeeded in subduing his stubborn soil, after thorough under-draining, and now makes it produce large crops of grain, roots, and grass. We thought the wheat particularly good. The process of improving his land, and gathering together the means of fertilizing it, are well worthy of record, and when the experiments are complete, we shall endeavor to get the particulars of them for the benefit of our readers.

The buildings at High-Wood are ample and convenient The house is of stone, and of chaste architecture. Mr. King has one of the best private libraries in our country. It contains nearly 4,000 volumes, and was principally a gift of a relative—the late Gov. Gore, of Massachusetts—to whom it formerly belonged—and whose name Mr. K, bears.

## THE ALPACA.—No. 3.

*Description, Habits, Food, &c.*—The Alpaca, when fully grown, is about 37 inches high to the shoulders, and 59 inches to the top of the head. It possesses many properties in common with the llama—belongs, as we have shown, to the same natural family, to the same country, possessing a similar disposition and manners, and bears much resemblance in figure, but is smaller in stature. Its legs are shorter, with larger muscles, and its wool finer, and more abundant; but it is less robust in its habit, being able to carry a continuous burden of only 50 to 70 pounds.

In a wild state, it is never known to associate with any other animal, but keeps together in herds of 100 or more in number, feeding, through choice, on a sort of rushy grass or reed, called *ycho*, which grows in abundance on its native hills, where, it is said, these animals are never known to drink, so long as a sufficiency of green, succulent herbage, can be obtained. They resort to a particular spot to drop their dung, which greatly resembles that of the goat, the sheep, or of the giraffe, and which often proves fatal to them, from betraying their haunts. When domesticated, they possess the same gregarious habits, and are strongly attached to their birth-place, to which they return at night, evincing little or no inclination to stray away, or to mix with other flocks. They are gentle, docile, and contented in their dispositions, and are as readily restrained as the common sheep, with which, it is said, they perfectly agree. They adapt themselves to almost any soil or situation, as we have already shown, provided the heat is not oppressive, and the air is pure. They will live and thrive on the same sorts of food as eaten by cattle and sheep; but the inferior kinds of browse, grass, or hay, with a due proportion of potatoes, or other succulent roots, are preferred to rich pasture and farinaceous grains. Too liberal an allowance of rich and stimulating food to an animal extremely abstemious, and habituated to live on coarse and light herbage, and that in small quantities, cannot be regarded otherwise than injurious.

**Flax Machine.**—We can give no additional information to the numerous inquiries addressed us in regard to this machine, other than is to be found on page 331 of our last volume. We understood the owner of it to say, when here last fall, that he would furnish us with a cut and complete description of it; but as he has not yet done so, we must refer our readers to Mr. George W. Billings, of St. Louis, Missouri, who can doubtless inform them all about it. If the inventors of agricultural implements cannot see it for their interest to furnish drawings and descriptions of them for a journal which has many thousand subscribers, and exercises no inconsiderable influence in the community, why then it is their affair, not ours, and we shall not hereafter trouble ourselves about their matters.

## DO THE RACES OF FRUIT TREES WEAR OUT?

In the May No. of the American Agriculturist, I find the following statement:—"If fruit trees are properly taken care of, they will never run out, any more than animals or man himself." Either I misunderstand you, or you misunderstand me. You certainly do not mean to be understood that a tree will live for ever if it be properly taken care of. My idea is that a tree has a limit as to age, and that in propagating any particular kind of fruit by ingrafting or inoculating, you do not renew, you merely continue. Am I to understand you as controverting this position? Do you mean to be understood as asserting that any particular kind of fruit, the Newtown pippin, for instance, may be kept in existence for ever? My idea is, that nature has, in the vegetable as well as the animal kingdom, provided one, and only one way for the renewal of life, and that is by the seed. That by ingrafting you merely continue what is already in existence—that the tree which you obtain by ingrafting, is no younger than the tree from which that particular variety was originally obtained. This is the idea I intended to convey, and this I understand you to controvert and pronounce "false doctrine." Your reasons for this conclusion I should be particularly pleased to see.

HENRY W. EDWARDS.

*New Haven, June 4th*, 1846.

In reply to the above, we would first inquire, Whether it is true that, when a tree or other perennial plant becomes unhealthy from old age, all the offspring previously obtained from it by grafts or cuttings, in all parts of the world, becomes unhealthy too? Or whether such a doctrine is a reasonable inference from known facts? Or is it forced upon us by evidence, although not deducible from mere reason? This appears to have been an important question to a labored advocacy for the last half century, who contend that multiplication by seeds is the only mode of propagation known among plants, and that all other kinds of increase are artificial, and lead to degeneracy. To us, we think it would be difficult to find an hypothesis more at variance with facts, and which cannot otherwise be regarded as entirely destitute of foundation.

The first person who advocated this theory was Mr. T. A. Knight, late President of the London Horticultural Society. In the latter part of the last century, he found that the orchards of Herefordshire no longer contained healthy trees, of certain varieties of apple, which were said to have flourished 50 years before; and, failing in his attempt to restore health to such varieties, by grafting, assumed that old age had overtaken them, and that they were past renovation. Thence he extended the theory to all other plants; and since, various writers, not excepting Sir Humphrey Davy, perhaps out of respect to Mr Knight's great name, rather than from any correct examination of the facts for themselves, have blindly adopted his views.

Through the kindness of Mr. Browne, we have received in advance of publication, the sheets of his new work on the "Trees of America," from which we make the following extract, premising that this alone would be conclusive, had we no other data upon which to found our argument.

On the subject of grafting the apple, he says: "A theory was advanced many years ago in England, and has lately been revived in that country, and is gaining ground in America, that the '*chance of life in a scion is affected by the chance of life in the original seedling, which began the species;*' that is, when the natural period for the decline of the parent tree has arrived, the scions taken from it will also be found in a declining state, though growing upon stocks in other respects vigorous. The advocates of this theory contend, that each particular variety of apple has its period of vigor and decline, and its duration cannot be protracted by grafting beyond a certain limit; and what they conceive to be very remarkable is, that within that natural limit, the grafts partake both of the vigor and decrepitude of the parent tree or variety. Although the period of duration is not known with any precision, it is thought to be longer in some varieties than in others. It is generally supposed, however, that it never much exceeds two hundred years. It seems that this opinion has chiefly arisen from the fact, that many kinds of the most celebrated European varieties have long since disappeared from their catalogues, and can now no longer be found; while many others, which were much esteemed in their 'palmy days' of bearing, are fast approaching to extinction, and will soon no longer exist. Although the above hypothesis may seem plausible enough in itself, yet, we cannot but remark, that the want of durability of the varieties in question does not apply to every set of scions; for many sorts of apple, as well as several other kinds of fruit, appear to have been readily propagated by means of successive scions, from the times of our forefathers. For instance, the Newtown pippin, the parent stock of which has been dead for forty years, has been successfully cultivated for at least one hundred years from before that period, and is still to be met with in the highest perfection in the markets, both at home and abroad. Furthermore, experience has shown, that many of the scions of deteriorated varieties have flourished for a time after grafting, and afterwards have appeared to die, not from old age, but from disease. Thus Sharrock, who wrote in 1672, inquired 'whether the canker in *pippins* arose not from incongruous grafting;' and Miller and Knight, of more recent times, each complained that pippins became cankered from a similar cause. Nevertheless, we do not wish to be understood, that the age of a tree is of little moment in the selection of scions; for, when a tree is evidently on the decline, an experienced nurseryman would not cull scions from it by choice, lest they should prove sickly and diseased; neither would he take them from a young tree, before it had arrived at its proper period of bearing. For every cutting taken from the apple, and probably from many other trees, will be affected by the state of the parent stock. If too young to produce fruit, it will grow with vigor, but will not blossom before it has passed through its successive periods of ripening wood; and, if too old, it will immediately bring forth fruit, but will never make a healthy tree. It may further be stated, that stocks often so much influence the scions engrafted upon them, by habit, if from no other cause, that their fruit is essentially different from that borne on the parent tree; and both stocks and scions, in being transferred to different soils or situations, often improve or deteriorate in the character of their fruit, sometimes becoming more healthful, and at others more sickly and diseased."—p. 307.

On the question at issue, Professor De Candolle, of Switzerland, remarks:—"We may easily conceive that every cultivated variety owed its origin to some special circumstance, which once occurred, and but once. In such a case, the variety has been multiplied by division, and every plant so obtained from it has been a portion of the same individual; which accounts for their all being exactly like each other. An identity of origin in all the plants of the same variety, has led some physiologists to imagine that these varieties or fractions of an individual might die of old age. This was founded upon circumstances observed by Mr. Knight with regard to the Golden Pippin. But it appears to us difficult to admit, upon such a single fact, an hypothesis opposed to all other facts. That varieties will last, so long as man takes care of them, appears to be proved by many of them having been preserved from the most remote periods. But it is also certain that negligence will cause some to disappear, just as accident or industry bring others into existence."—*Phys. Veg.* 731

The same question has been ably discussed and refuted by Dr. Lindley, from whom we cite the following incontestable arguments: "What are called facts," says he, "the real value of which we shall presently discuss, have been adduced to prove that if plants do not die of old age in a wild state, yet that they incontestably do wear out when artificially multiplied by division. In opposition to this it is sufficient to quote the White Beurré pears of France, which French writers assure us have been thus propagated from time immemorial, and which exhibit no trace of debility; or the cultivated vines of which the very varieties known to the Romans have been transmitted by perpetual division, but without deterioration or decrepitude, to our own day. The *Vitis præcox* of Columella is admitted by Dr. Henderson, on the authority of the most trustworthy writers, to have been the *Maurillon*, or *Early Black July Grape* of the present day; the *nomentana* to have been the German *traminer;* the *gracula* the modern Corinth or Currant; and the *dactyli* our *Cornichons* or *Finger* Grapes.

"But it is affirmed that some cultivated plants have really worn out. The Redstreak, the Golden Pippin, and the Golden Harvey apples, are among the number quoted. The first of these is little known to us, and we have no evidence about it; but the Golden Pippin and Golden Harvey are certainly not capable of being employed in support of Mr. Knight's theory. Both are to be found in various places at this moment, in as perfect health as they ever enjoyed. The Golden Pippin is among the most vigorous apples of Madeira; the Golden Harvey is in all good gardens. Of the former, healthy trees were many years since shown to exist in Norfolk; in warm dry places it has no particular appearance of suffering. Recruited by the fine climate of France, the Golden Pippin has been received back to this country in as healthy a state as ever, and is now growing in the garden of the Horticultural Society. The old Nonpareil was well known in the time of Queen Elizabeth; in cold places it cankers, and no doubt always has cankered; but what can be more healthy than that variety in favorable places? In short, what is called evidence breaks down wherever it is examined; and the argument about the wearing out of races proves to be baseless."

"Wild perennial plants, whether woody or herbaceous, whether forming a trunk or a mere permanent root, have never yet been shown by any trustworthy evidence to be subject to decrepitude, arising from old age. On the contrary, every new annual growth is an absolute renewal of their vitality, in the absence of disturbing causes. Hence the enormous age at which trees arrive. A thousand years is still youth to a forest tree which no accident has injured; and there is no intelligible reason why it should not, if guarded from violence, continue to grow to eternity. It is very true that plants do in reality perish commonly without attaining any such longevity; and that constitutional feebleness is notoriously one of the accompaniments of advancing age. But this arises from external, not intrinsic causes. The soil which surrounds them is exhausted, their roots wander into uncongenial land, water in unnatural excess is introduced, the food they require is withheld, violence rends them, men mutilate them, severe cold disorganizes them, and these and other causes produce *disease*, which may end in death. But this is very different from dying of mere old age; and for practical purposes it is most material to draw the distinction."

"Although an examination of evidence leads us to the inevitable conclusion, that the wearing out of the races of plants by old age is a delusion, yet we are far from denying the accuracy of the statements made by some recent writers on this subject. We may admit their facts, but reject their reasoning, and protest against the inferences they would have us draw."—*Gard. Chron.* 1845 p. 833.

## CULTURE OF THE GRAPE AND MANUFACTURE OF WINE.

OUR readers will find several articles on these subjects in the two first volumes of the Agriculturist. We were sanguine in their success, if properly undertaken, particularly in latitudes south of 40°, and cited several examples, giving the method of culture, and making wine, on a tolerably extensive scale. Since this, the culture of the grape has greatly increased, especially on the banks of the Ohio. N. Longworth, Esq., of Cincinnati, has recently sent us a pamphlet on the above subjects, and as he is a gentleman of considerable experience, and the owner of extensive vineyards, we avail ourselves of the following valuable extracts from it.

"I have seen a late article from Mr. Resor, on the cultivation of the grape and manufacture of wine, in which he praises the Isabella grape, as being valuable for cultivation as a wine-grape, and remarkable for ripening its fruit. If my experience is to be relied on, his article is calculated to do great injury to those now planting vineyards. In all my early vineyards, I cultivated the Isabella extensively. I cultivated it on the tops and sides of hills, with all exposures, and on bottoms. I have cultivated it for twenty-five years, and still have a few of them in three of my vineyards, and a few in my garden. It is the worst grape for ripening we have. Usually half the berries continue green, and they are also liable to rot. My German vine-dressers have extirpated it from their vineyards, or are now doing it. It is best manufactured into a sweet wine, by adding one and a half, or two pounds of white Havana sugar to the gallon. I incline to the opinion, that Mr. Resor has mistaken the Cape grape (Schuylkill Muscadel), for the Isabella. The Cape is generally free from rot, and bears and ripens well, and makes a better wine than the Isabella. The Isabella succeeds better at the East, than it does with us.

"The day is not distant, when the Ohio River will rival the Rhine, in the quantity and quality of its wine. I give the Catawba the preference over all other grapes, for a general crop, for wine. Sugar was formerly added. The Germans have taught us better. Where the fruit is well ripened, sugar will injure it, where intended for long keeping; where the grapes do not ripen well, I should still add from 6 to 10 oz. of sugar to the gallon of must. It rivals the best Hock, and makes a superior Champagne. The Missouri grape makes a fine wine, resembling Madeira; but is less productive than the Catawba. I have heretofore considered this a French Pineau grape, as it is a delicate grower with us; but I sent some of the plants to my sister in New Jersey, where the soil is poor, stony, and stiff. It there grows as luxuriantly as the wild grape of the woods, and is perfectly hardy; and I now deem it a native. I obtained it of Messrs. Prince, of Long Island, twenty-five years since. The berry is small, the bunches of medium size, berries free from a hard pulp, and very sweet. The Herbemont is a fine table grape, and makes a fine wine; but is subject to rot. The Lenoir much resembles it, if not identical, which some consider it; I do not. The Ohio is a fine table grape, bunches much larger than either of the former; but experience does not enable me to recommend it highly for wine. It has a peculiar flavor, and resembles a foreign variety I have heard highly lauded, but does not suit my taste. The Bland is a bad bearer; does not ripen well, nor make a good wine, but is a fine table grape. I do not believe it a native grape. Gen. Harrison informed me, that it was introduced into Virginia sixty years since, by a French gentleman of the name of Mazzei. The Elsanborough is a good table grape, and free from a hard pulp. Norton's seedling is far inferior as a table grape, to the Herbemont, Ohio, Lenoir, Elsanborough, and Missouri, which it resembles in the size of its fruit. It has a pulp. I am trying it this season on a small scale, for wine. The grapes were very ripe, and the wine has much body, and is of a dark claret color, though pressed as soon as gathered. I do not admire the flavor of the wine. Writers tell us to the contrary, but grapes may be too ripe to make good wine; and I incline to the opinion that this was the case with my Norton's seedling. The grapes were pressed as soon as gathered, yet the wine was nearly black; a certain proof that a fermentation had taken place in the fruit, before gathered. It was increasing the saccharine principle, at the expense of the aroma and flavor.

"In the hope of inciting other Germans to go and do likewise, I will state the result at one of my vineyards this season. Sixteen years since, I bought an unusually broken piece of ground on Boldface Creek, four miles from the city. The soil is rich, but abounds in stone. I had a tenant on it four years, who was bound to plant a vineyard. At the end of four years nothing was done. I tried a second, and after three years, found no grapes. I then gave a contract to a German (Mr. Tuferber), who had a wife, daughter, and three stout boys. I gave him a hard bargain. I required him to trench and wall with stone, six acres for grapes, in three years, and nine acres in five years. He was also to plant out a peach orchard, and tend an apple orchard, I had on the place. The wine and proceeds of the orchards were to be equally divided. I carefully avoided climbing the stony hill for three years, expecting the same result as formerly. When I visited the hill, at the end of three years, I found the six acres handsomely trenched and walled, and set with grapes. There are now nine acres in grapes. The tenant complained this year of the rot in his vineyard. I am in the habit of selling to the tenants, my share of the vintage, at a price that enables them to sell at a profit. I this season sold at 75 cts. per gallon, at the press, for the Catawba, 62½ cts. for the Cape, and 50 cts. for the small quantity of Isabella made. He has paid me $661 for my share of the wine, and for his share and the profit on my part, has realized the sum of $1,392.50. The Catawba he sold at $1.25 per gallon.

"The best crop for the extent of ground this season, was at the vineyard of Mr. Rents, about four miles from town. Two acres yielded 1,300 gallons. This is as large a yield as I have known, taking two acres together. To select particular spots, I have raised at the rate of 1,470 gallons to the acre. The grapes at the vineyard of Mr. Rents would have ripened better, had one-third of the bunches been cut off early in the season. Where the crop is very abundant, it requires a very favorable season to ripen the fruit well.

"Six hundred and fifty gallons to the acre is a large yield, and the season must be favorable, or they will not ripen well. A large crop is often occasioned by leaving too much bearing wood. This should always be avoided; for even if the crop ripens thoroughly, too much of the sap is taken by the fruit, and too little left to produce good young wood for the next season's crop.

"I have for thirty years experimented on the foreign grape, both for the table and for wine. In the acclimation of plants I do not believe; for the White Sweet Water does not succeed so well with me, as it did thirty years since. I obtained a large variety of French grape from Mr. Loubat, many years since. They were from the vicinity of Paris and Bordeaux. From Madeira, I obtained six thousand vines of their best wine grapes. Not one was found worthy of cultivation in this latitude, and were rooted from the vineyards. As a last experiment, I imported seven thousand vines from the mountains of Jura, in the vicinity of Salins, in France. At that point the vine region suddenly ends, and many vines are there cultivated on the north side of the mountain, where the ground is covered with snow the whole winter, from three to four feet deep. Nearly all lived, and embraced about twenty varieties of the most celebrated wine grapes of France. But, after a trial of five years, all have been thrown away. I also imported samples of wine made from all the grapes. One variety alone, the celebrated Arbois wine, which partakes slightly of the champagne character, would compete with our Catawba.

"If we intend cultivating the grape for wine, we must rely on our native grapes, and new varieties raised from their seed. If I could get my lease of life renewed for twenty or thirty years, I would devote my attention to the subject, and I would cross our best native varieties with the best table and wine grapes of Europe. We live in a great age. Discoveries are daily made that confound us, and we know not where we shall stop. We are told of experiments in mesmerism, as wonderful as the grinding over system would be; but I fear the discovery will not be brought to perfection in time to answer my purpose, and I must leave the subject with the young generation."

## DAIRY COWS.

We have so often endeavored to inculcate upon all farmers who raise cows, the necessity of paying greater attention to their qualities as milkers, that we are almost ashamed to mention the subject again. But meeting with an article which recently appeared in the Barre Patriot, Massachusetts, we will condense the substance of it for our readers.

Mr. Harrison Baker has a dairy of thirty-four cows, twenty-four of which are grade Durhams, and ten are Natives. The editor of the Patriot says, twenty-seven of the thirty-four carried such enormous and distended udders as he never before had the pleasure of witnessing. He saw the cows milked. Twenty-three of them gave each over a twelve quart pail full, and several of them more. He regrets he did not weigh their milk, but adds:

"We, however, weighed the milk of one young cow 5 years old, and of two heifers 4 years old. The weight was as follows: the cow gave 25½ lbs., equal to 51 lbs. a day; one hiefer gave 21¾ lbs., equal to 43½ lbs. a day; and the other gave 21¼ lbs., equal to 42½ lbs. a day. The cows, as to size, are most of them about middling, weighing from 750 to 1000 lbs., as we should judge. Seven of the 34 cows are quite ordinary milkers, leaving 27 cows, such as we venture to say are not to be found in one lot in New England, if indeed they are to be found anywhere. Mr. Bacon informs us that he commenced making cheese about the 1st of April, which is the usual time of commencing, since which, he has made from the thirty-four cows between 7 and 8,000 lbs. of cheese, and thinks that he shall make from 12 to 13,000 lbs. more before the 1st of December next—making in the whole, from the 1st of April to the 1st of December, about 20,000 lbs. The day before we were there, he made 134 lbs. of cheese from one day's milk, and thinks by another week he shall come up to 140 lbs. a day. We hardly think this, with the same number of cows, has ever been equalled by any farmer in this or any other country. Mr. Bacon gives a decided preference to the grade Durhams over the Natives, and is now rearing 6 yearlings and 11 calves, which are half blooded Durham, and in which we think the most skilful connoisseur of stock would hardly be able to detect a fault. The reason of the preference given by Mr. Bacon to the Durhams over the Natives is, that they generally yield more milk of an equal good quality, though the difference in this respect is of less consideration than the fact that the Durhams yield milk about a month longer than the Natives. He says he finds it difficult to 'dry up' many of his Durhams at all. Twenty-two of Mr. Bacon's cows were raised by Mr. Elias Ayres, who has recently taken up his abode in Virginia, and whose experience and skill in breeding animals for the dairy were well known to most of our farmers, though we have reason to think they were not sufficiently appreciated by them."

**Raising Grain at the South.**—Mr. Alexander Mc'Donald of Alabama informs us that he sowed, in September last, several kinds of wheat that he obtained from the Patent Office; one variety of which entirely escaped the rust, and produced the finest grain that he has ever seen. He also has raised from seed obtained from the same source, half a bushel of multicole rye, and a small quantity of Polish oats, which will soon enable him to furnish a supply of these invaluable grains to others in his section of the country for seed. He says, "I took hold of my business on the 12th day of May, since which time, I have spent some twelve hours each day, in personal attention to the plowing and hoeing of my growing crop. This is what I have not done for the last fifteen years; but such is the deep and abiding interest I feel in the success of my agricultural operations, that I cannot feel satisfied without being present."

**To the Friends of Agriculture.**—We are necessarily so confined to our business at present, as to prevent our making as many excursions as we otherwise would do, among the farmers. We hope, therefore, that all interested in the advancement of agriculture, will be the more ready to furnish us matter for publication. There is scarcely a farmer, planter, or gardener, in the Union, however few his acres under cultivation may be, who does not annually find out something new in regard to the products of agriculture, and their management. Let these facts be noted, and in due time communicated to us for publication. In this way our Journal may be made a store-house of useful information, and our contributors will have the satisfaction of knowing that they are not only doing things for the benefit of those who are engaged in the same calling, but for the world at large.

**Glass Milk Pans.**—By recent accounts from abroad, we observe that glass milk pans are being introduced into England, which it is thought will preserve milk much longer, and will prove economical. They may be made of green glass, of any convenient size or shape, with, or without covers; and, with careful usage, will last a thousand years.

## DISEASE OF FOWLS.

I do not doubt that Mr. H. T. Lloyd (see current volume, page 142) has succeeded in curing his hen, but not by his surgical operation. I have lost in winter time many fowls by this same distemper. I tried such surgery—rhubarb pills, assafœtida, and other nostrums, till circumstances made me reflect better, and finally discover the true cause of the disease. Hens are by nature provided with a crop to serve them as a magazine for provisions; because, in their natural state, they stumble sometimes upon an abundance of food, and often for days find nothing. But as any kind of vegetable or animal matter kept in a moist and moderately warm state, must inevitably begin to ferment and putrefy, all-provident nature has given to these bipeds the instinct to find a remedy against the detrimental effect of putrefaction upon a living organism, the remedy for which is lime.

Fowls, if fed ever so well, will become sick, and finally die, if they cannot get at gravel and lime, the one acting mechanically, and the other chemically, in the digestion of their food. It is an error to believe that they only eat lime for the formation of the shell of the egg, because cocks eat as much lime as hens, and young chickens do so likewise. In opening and examining hens which have died of this disease, their stomachs will show an essential difference from that of a sound fowl. In the sound one, the innermost coat of the stomach is a strong leather-like whitish or yellowish substance, and can be pulled off from the outermost part in one piece, without breaking. In the diseased hen, this coat will be found either completely, or at least partially black, round the œsophagus, the orifice by which the food enters—in a state of inflammation or even putrefaction, crumbling to pieces, at any attempt to pull it off. This skin or coat contains, gives out, and forms the gastric juice, without which no digestion can take place. The chemical theory of fermentation, which I cannot enter into here, is too well ascertained, and explains the action and reaction of putrid food upon the gastric juice, if not remedied by an alkali. Any market-dealer of fowls will affirm that this disease befals them when they are cooped up for some time, and ship-masters know it too well to their great damage; yet they are all either too ignorant or negligent to provide them with gravel and lime. Sometimes, when the fowls can get both these remedies, before the disease is gone too far, they recover; but if they emit from their mouths a strong fœtid smell, nothing can save them.

About three weeks ago, a friend of mine bought 100 fowls in market. He observed some 40 or more sick of this disease, and dying off with full crops. He applied to me for advice, and I made him separate all the sick ones from the others, and keep them for 36 hours without food, provided only with water. We then examined them, and found about a dozen with full crops, yet smelling very bad from their mouths, which were marked, and put with those whose crops were empty, or nearly so, and kept upon a diet of soaked wheat, into which was mixed charcoal powder and air-slacked lime, for about 10 or 12 days. The first ones are now all dead, and the others almost all recovered, and begin to lay. Mr. Lloyd's hen was no doubt in the first stage of the disease, and his feeding her on warm food, perhaps scalded meal, which she wanted, but not gravel nor lime, being easily and rapidly digested, made her recover; and such a diet would perhaps have done so without surgery. I opened the crops of many hens without having ever saved one by it; and I believe it to be an error that the passage into the stomach can be obstructed, into which error I first fell likewise, although it might occur, but certainly not in a whole coop-full at once, and I yet doubt that any fowl would swallow anything liable to do so; they are too cautious for that. S.

## SHEEP HUSBANDRY.

In looking over the January No. of the American Agriculturist, I noticed a communication of a gentleman from New York, who had examined some of the Spanish and French Merino sheep. He speaks very unfavorably of any importations from Spain to improve our Spanish sheep that have been reduced by bad crossing. He states that in consequence of bad management, and carelessness in breeding, the flocks in Spain have become so reduced that they have imported bucks from Saxony to improve them; the consequence of which is, they have reduced the size, lessened the quantity of wool, and enfeebled the constitution. It appears that they have got into the same trouble in Spain that we have here, and in the same way. The question now arises, How are we to extricate ourselves from this trouble? If we can get no pure bloods that are more perfect from Spain, than we have here, then there is but one course for us to pursue, which is to see if we have any sheep that represent the pure Spanish blood, when first imported into this country, and then see whether the owners of them can establish the purity of that blood by certificates from the importers themselves, and from others well acquainted with their course of management in breeding, down to the present time. There are some such flocks of sheep in this country, and I esteem it a pleasure as well as a duty, to state where they may be found, and also to add a few remarks partly in repetition of what I have formerly said of my views and experience in the art of sheep-breeding.

In selecting male animals for breeding, we should take great pains to procure pure bloods, and those that are most perfect in their outward appearance. In breeding, at least three out of four will partake largely in their outward coat and appearance of the male. In breeding fine-woolled sheep, this is a very important item, as the outward coat constitutes nine-tenths of their whole value. It agrees with my observation, that all crosses of pure Spanish Merino bucks upon any other kinds of sheep, prove a great improvement; and on the other hand, all crosses of other kinds upon the Spanish ewes, either injure the quality of the wool, lessen their size, or enfeeble the constitution. I suppose that all fine-woolled sheep were taken originally from Spain, which was their native country. It is claimed by some of the owners of Saxon sheep, that there should be no crossing; that the several breeds should be kept distinct. I think this to be an error. The great trouble at present with the Saxon sheep is the want of a cross. In the year 1764 it appears that the Elector of Saxony obtained permission of the King of Spain to import a number of Escurial sheep, taken from the king's own flock. In the year 1777 there was another importation from Spain to Saxony, of Escurials, Montarcos, and Negrettas. Now, if either of these kinds of sheep have been kept without a cross, they have been bred in-and-in more than sixty years. If the holders of Saxon sheep would procure bucks of the Escurial or Montarco kind of pure bloods, in my opinion they would bring back their flocks to a state of purity. I have been accused by some of the Saxon wool-growers of having Saxon blood in my flock, probably for reasons well understood by themselves. I claim not to have any. I have lately received certificates from three of the gentlemen who imported the breed of sheep which I have now in my possession in their pure state, which I am prepared to substantiate by certificates from men of respectability, who have been acquainted with my course of management down to the present time.

Captain Gad Peck certifies that the sheep which I purchased of him he imported from Spain from the Don Delapontes flocks, said to be the best blood in Spain, and so pronounced by General Humphrey on their arrival here, and their blood has never been doubted by any one. They were of the Montarco and Negretta kinds. Doctor Samuel Elton certifies that he was one of the importers of the cargo of sheep in 1811, and that the buck which I referred to, in giving a pedigree of my sheep, was a full blood Escurial. Of what blood the General Humphrey sheep were that this buck was crossed upon cannot be ascertained; but they were supposed to be the Escurial. It appears that the sheep from which my flock has sprung, were taken from Spain, of the same blood as those imported to Saxony. Now, why is it that they are so different? It must be in consequence of the different course of breeding. I have taken great pains to cross the different kinds as often as once in two or three years —never using a buck to his own offspring. When I breed from a buck that represents the Montarco, three-fourths of the lambs will be of that kind, but I make no improvement from that kind of bucks. I then change and take a buck that represents the Escurial—most of them improve for two or three years. It may be asked by some, Why I do not improve from the Escurial all the time, if the improvement comes wholly from them? I answer, it is the cross which makes the improvement. It will not answer to breed in-and-in if we would preserve the flock from degenerating. I have always bred from the best buck that I could raise or find; but since I purchased the one in the year 1828, I never have been able to find one out of my own flock that suited me for a cross. I never have allowed any one, in purchasing, to select one of my best ewes, until somewhat advanced in years. Since I have had the Escurial blood in the flock, I never have known any one that has used bucks of that blood, but what has made great improvement. I will refer to some of the gentlemen that have improved from my flock. Mr. Samuel H. Nettleton commenced with the Escurial blood about the same time that I did; they are now in the care of his son. They have bred from my flock for the last five years, and I believe they have pure Merino sheep. Mr. Stephen Atwood, of Woodbury, purchased a buck of me in 1832, which he used a number of years, and has received great credit for his improvement. Messrs. Nathaniel B. Smith, of Woodbury, Lauren Thrall, of Torrington, Edward Hickox, George F. Merriman, and Dayton Mattoon, of Watertown, have all of them used my bucks, and have made great improvements, and have very fine sheep. If improvement be made in this country, it must be from pure Spanish blood.

It is not my intention, by this communication, to puff up my own sheep, or any others, above their merits. I have no bucks that shear 11, 12, or 14 lb. fleeces—neither do I believe any one has, who has pure Merino sheep. After the introduction of Saxon sheep into this country, it seemed to be the great end of wool-growers, to see how fine a sample of wool they could raise without regard to constitution or quantity of wool. After a while, many saw their errors. The next move was to see how great a fleece they could get without regard to fineness or softness of the wool, and I believe have bred their sheep impure to accomplish that object, and have sold these fleeces under the name of Merino wool, which has been the cause of many of our manufacturers forming strong prejudices against all Merino sheep, while most of them are strangers to the pure article. I contend that pure Spanish Merino wool is as perfect as any other that has been grown in this country. As I have shown the two opposite extremes which wool-growers have run into, let others shun their errors, and see how many of the most valuable qualities they can combine in one animal, or in one flock of sheep. I consider it of the first importance to New England wool-growers to improve our flocks so as to be able to produce the best sheep raised in any country, combining all these good qualities, good constitution, heavy fleeces, finest wool, and perfect style.

The gentleman alluded to in the first part of this communication, speaks very favorably of the French Merinos. He mentions a buck raised by Mr. Gilbert, from the Rambouillet flock, whose weight was 230 lbs. The question arises in my mind whether that buck would cross well upon our fine sheep in this country, which are so much smaller. The lambs would, of course, be much larger, giving the ewes great trouble in bringing forth, and would need a large supply of nourishment. The consequence would be, a long-legged, imperfect-shaped animal. If a gentleman who has the ability would import some of the Rambouillet ewes and cross a pure Spanish Merino buck upon them, the consequence would be just the reverse. The ewes would have no trouble in bringing forth —have a great supply of nourishment, and the lambs would be lower on the leg, and be most perfectly-shaped animals; but after all, is it not our duty, in case there is as perfect stock bred in this country, and of as pure a race as is to be found in any other, to retain the credit at home, in preference to giving it to another nation? I am satisfied that there is as great improvement made in this country in breeding fine stock as in any other—that there have been as perfect sheep raised in this country as was ever imported here from Spain. If this be correct, are not the improvers entitled to some credit? I saw a communication in the April No. of your paper, signed Thomas Affleck, of Mississippi, containing some observations on the different flocks of sheep which he examined during a trip to the north. He seems to be impartial in his remarks, and is disposed to give credit where credit is due. I noticed also another communication signed John Brown, of Ohio, which seems to be written in a very different spirit. This gentleman speaks very disparagingly of those that have given a description of their own stock in agricultural papers, in answer to inquiries. I think it is a proper course. The public have a just right to demand a pedigree of their stock, and also certificates to prove what they have stated, and it is their duty to give them. The gentleman says he has lately given to the editor of the Albany Cultivator the names of several wool-growers, who have not puffed up their sheep in agricultural papers, as entitled to more credit. That is perfectly well understood. Perhaps they do not puff their own *up*, unless through their agent, but they are very active in puffing their neighbors *down*. It is one thing for a man to raise his credit by travelling through the country, and collecting a flock of sheep by selecting here and there one from the finest flocks; it is another for a man to be at home attentive to his business, and breeding a flock of fine sheep. It is yet another and still a more difficult thing to improve a fine flock of sheep by the art of good breeding. The former does nothing but transfer one man's improvement to another; while the latter not only adds to his own private interest, but is able to furnish male and female animals for the improvement of others, and thereby adds to the interest of the world. JACOB N. BLAKESLEE.

*Watertown, Ct., June 2, 1846.*

EFFECTS OF SLANDER.—The calumniator injures three persons at a time—the person calumniated, the one who listens, and most of all himself.—*Spanish Proverb.*

BLIGHT IN GRAIN NOT PRODUCED BY THE BERBERRY BUSH.—The Berberis vulgaris is subject to a disease called mildew (*Æcidium berberidis*) which, when magnified, is found to consist of a number of small orange-cups, with a fine film over each. When ripe, these films burst, and the tops of the cups assume a ragged, uneven appearance, in which state they look like white fungi. The cups are filled with innumerable little cases, containing seeds or sporules, and these constitute the bright-orange powder that is seen on the leaves and flowers of the berberry, and was long supposed to be the blight on corn both in Europe and America. This opinion, though totally unfounded, is of unknown antiquity. The error has been ably and scientifically refuted by Messrs. Du Hamel, Broussonet, and Drs. Grenville and Lindley. The blight on corn is generally a species of uredo, and does not correspond in botanical characters with the æcidium. One of the principal reasons why corn will not thrive in the immediate vicinity of the berberry is, on account of the meagreness of the soil in which it often grows, it being impoverished by its creeping roots.—*Browne's Trees of America.*

## A REVIEW OF THE APRIL NO. OF THE AGRICULTURIST.

I CONTINUE my comments upon your publication; but in future I intend to be less prolix. My object in part in my Review of the March No. was, to show your readers what a vast amount of useful matter is contained in each No. . . . I shall now only notice such articles as I think can be reviewed with advantage to them; as cavilling is not my object. As you have given me permission to criticise your articles, I shall begin with that upon the

*Value of the Grasses.*—In my former article I complained of the want of *definiteness* in writers upon scientific subjects—this will apply to this article. Perhaps it is the fault of the language, that we have no definite term to express our meaning when speaking of "the grasses;" a term that means a family of some 300 members. Perhaps some of your readers are not aware that maize (Indian corn), sugar cane, rice, and grain, are part and parcel of "the grasses," as much as timothy and clover. When speaking of the latter and their immediate kindred, then, it would be better to adopt some definite term. Suppose we say "stock grass," or "hay or pasture grass," to be more definite in our meaning. I agree with you as to the value of the crop of hay and pasture grass, in some parts of the Union, but in others there are thousands of persons who are called farmers, who live, year after year, without cultivating a single acre of such grass. Therefore, anything that you can say to induce an extension of culture of such a valuable crop, will be well said.

*Agricultural Colleges and Schools* are in advance of the age—you might as well appropriate that space for other matters. It is idle to attempt to procure legislative action upon so important and beneficial an object, until we are farther advanced in the scale of civilisation. Witness our national councils, and the Smithsonian bequest.

*Coal Ashes for Grass Lands.*—Valuable without doubt. But instead of rolling in the cinders, which cannot be done so as to keep them entirely out of the way of the scythe, let them be put into a cart or wagon bed made on purpose to sift ashes, and geared to the wheels, so as to give a shaking motion, and then burn the cinders.

*Sowing Corn for Fodder.*—Among your recommendations, why not tell those tens of thousands of Southerners who never save any other kind of "*roughness*," how much better than "corn blades" would be a crop of broadcast sown corn, and how much easier to provide a supply of fodder where they won't try to raise hay grass, than their present system of stripping the leaves from the growing corn-stalks? If the ground is plowed, and weeds well turned under about the 1st of July, there will be a good crop, without the necessity of drilling or after culture.

*Fish for Manure.*—Try spent bark from the tan-yard. It will absorb the ammonia.

*Descriptive Catalogue.*—This is the best advertisement that I have ever seen, as the extract explanatory of the three plows will in part show, and the hundred other cuts and explanations, together with a mass of other information, makes not only a useful, but a very interesting, readable book.

*Mustard as a Field Crop.*—*If* it will yield "ten or fifteen bushels to the acre," and bring the half of the price you say, it is a more profitable crop than wheat. Give us more upon the subject. The western bottom-lands and rich prairies can carry the crop without danger of exhausting the soil.

*American Agricultural Association.*—I have but little to say of this excellent association. But I will report for Mr. Clark upon "the expediency of establishing a silk manufactory," against the measure. I have great faith in the growing of silk in all this country, but it must be done as a *domestic* business. Every family in the county or villages could keep a few worms, and the product would be all profit. Silk cocoons should be produced just as honey is now, or rather as it should be, in every family.

*A Leaf from a Farmer's Ledger.*—I like to see this kind of accounts, but I pray that some of your readers be not misled in the "root crops." I have asked, "will it answer when oats and corn are not worth more than ten or twelve cents a bushel," and hay from $1 to $2 per ton, to cultivate roots for economical feeding? Such we are told is the fact out West. Then, too, $100 will pay for 25 or 30 acres of land under good tillage. "Circumstances alter cases,"

*The Row Culture of Wheat.*—This, and hoeing out the weeds, will do very well for "*a patch*;" but for a western prairie field of 300 to 800 acres, where land is very cheap as well as team labor, and where manual labor is very dear, will it answer a good purpose? As for a drilling machine for wheat, when one is wanted, I would recommend Pennock's of Westchester (or in that vicinity), Penn. I am greatly in favor of drilling all hoed crops, and perhaps it would be profitable to drill all grain.

*Rambouillet Merinos.*—Too much controversy upon this subject to be profitable to your readers. If Mr. Bingham's flock do average 5 lbs. per head of real Merino wool, then it is a good flock. If Mr. Randall's average more, and better wool, then his flock is better; to prove which, send the whole to Mr. Lawrence, of Lowell, and publish his certificate as to the relative value of their fleeces, and let us have no more of this uninteresting dispute of which is best.

*Scripture's Carriage Wheel.*—Unless I am greatly mistaken, this is one of the most valuable improvements of this age of inventions. Capt. De Bonville, about ten years ago, undertook to cross the Rocky Mountains with about sixty wagons, before the road through the South pass was known, and his wagons literally tumbled to pieces, in consequence of the dryness of the atmosphere at the great elevation that he reached; and the same difficulty in a lesser degree occurs to every Oregon emigrant. How invaluable would be a set of these wheels, if they prove to work well! I pray you, Mr. Editor, to personally examine some that have been longest in use, and tell us what the owners say of them. What is the amount of extra expense?

*Necessity of a Knowledge of Chemical Principles to a Farmer.*—Convince him of this fact, my worthy friend, and then will the country be ready for agricultural schools. This is one of the best writers that appear in your paper, and this is a most capital article, the title of which will be looked at and passed over by many a one it was intended to benefit, as something to them uninteresting; as you may often hear a farmer say, that he don't want to know anything about chemistry. And yet here, in this single article, upon the subject of white to preserve his buildings, he might learn enough of chemistry to be worth fifty times the price of the Agriculturist, every year. For the reasons stated, is not white an excellent color for horses and cattle? Let us hear further from R. L. A., upon this interesting subject.

*Sheep at the South.*—I have no more doubt than Mr. Affleck, that fine wool *can* be grown in Mississippi; but that wool will ever be produced there in great abundance and profitably, I have some very strong doubts. Mr. A. says he commenced handling our flocks at Utica. At the same place I commenced getting acquainted with this southern planter, who, for aught I know, may be a very good one. But will he prove a good shepherd? I hope he will not lie in bed and leave his sheep to the care of his careless negroes. This is the reason why flocks do not prosper better at the South. Mr. A. is out of humor with us because we charge too high for sheep. When they are unprofitable, we will charge less.

*Agriculture and Lands of Florida.*—This is an interesting article, from an interesting writer. None of your articles are read with more general interest, than descriptions of those portions of our new lands that are but little known in the "old settlements." It is not a matter of surprise to me, nor need it be to friend Parsons, that no one has attempted to cultivate and prepare the dried fruits. Mr. Affleck gives the reason in the No. under review. Here it is:—"The cotton crop affords no time for attending to others. From New Year's day till Christmas, it keeps every hand incessantly employed." And still they gain nothing ahead. Debts and cotton. Cotton, and debts, and slavery. And with all, the only freeman is the slave. The master is so great a slave that he has no time to cultivate fruit. I can demonstrate, in ten lines, that cotton is a curse to the South. "One of the most profitable employments, &c., in Florida, is the raising of cattle." And pray where is it not? If it is profitable in Florida, I venture the assertion that it is equally, or more so, in Wisconsin; for there the beef is worth twice or thrice as much, and can be packed 6 or 8 months of the year, sweet, sound, fat, and good, from the wild prairie grass, by means of one of the new kind of "salting machines." In the North, cattle have a value. In the South, particularly Central America, their value is at most but small. Commend me to the North for cattle-raising for profit.

*Sheep Husbandry, by John Brown.*—Now, whether Mr. Brown had lately got himself a pair of cowhide boots with *thick soles, well nailed*, or not, I am sure I cannot tell; but he does hurt some of our Down East toes most confoundedly; and he don't seem to care much whose they are. And as I don't mean to let him know who owns mine that he is trampling upon, I shall advise him to keep on trampling; and I will risk my toes just for the fun of seeing some of my neighbors kick and scold. There is too much humbug peddling among stock raisers, and an editor of an agricultural paper that will accept of pay for *puffing* off a spurious breed of "*sperm oil Merinos*," is no cultivator of moral honesty. It is time some swindling tricks that I know of, were exposed. I caution buyers at the South and West not to send orders here, unless they do it through some agent who has a reputation that cannot be greased over with so contemptible a covering as *artificial gum* on a sheep's wool. I hope, that after all, Mr. Brown is not advertising his own flock. Pray let us hear from him again.

*Importing Beet Seeds* is an absolute disgrace to this country. But I cannot think it would be, if it was known that it would meet with a ready sale at a fair price, if raised at home. Please tell us what is the price, and where the market? [We usually sell at 75 cents per lb. See our Catalogue, p. 60.] The crop must be a large one in bushels, per acre; but only about one-half should ever be put up for seed by an honest man, except a sort of a whale-oil Merino-buck honesty. What would the small refuse seed be good for? [Nothing at all that we know of, except for manure.]

*A Massachusetts Barn.*—Just what we might expect from a State where they put timber into a machine that turns out finished plows. I like this barn, and if Mr. Knox can make them for $600 each, I would like to take a couple, and allow him 10 per cent. profit. I would recommend an addition, and that is a ventilation in the centre of the roof, made with slats, like Venetian blinds. They are but seldom added to barns, yet I am persuaded that they would be of great service in carrying off the gases that arise from the hay and grain, and which always make it so oppressive to the laborer, when "mowing away" near the roof. The slats can be made to open and shut, by cords coming down to the floor, if that should be preferred to having them stationary. I hope no one who sees this plan will ever build a barn 60 feet long, with a floor running crosswise. I wish, Mr. Editor, that you would procure and publish the plan of an old-fashioned Massachusetts farm-house. [Thank you for the hint. It shall be done hereafter. We had the honor, for so we consider it, of being born and partly reared in one.] Such an one, I mean, as you and I—oh, I forget, you don't know who "I" am—but such a one as used to be common a hundred years ago, having two "square rooms" and a kitchen, with *such a fire-place!* All the plans since contrived are not "improvements."

*Blight in Pear Trees.* — More indefiniteness. What is blight? First describe the disease, so that everybody can tell what it is, and then I don't care what you call it, or how you cure it. Will somebody tell me if a pear tree ever blighted that had a supply of wood ashes around the roots every year? The same of plums? There are better uses for ashes than throwing them in the street, or selling them to the ash gatherers for "a pound of soap per bushel."

*Gardening, No.* 2.—Should have been entitled "History of Ancient Gardens," &c. It is an interesting historical article. It never struck my mind so forcibly, before I read it in this article, that "JESUS CHRIST *was buried in a garden.*" And I thought how much more like heathens than Christians, do the most of his followers bury their dead, in the byways and highways of this land, instead of in gardens, and "a field bordered with trees."

*Fat Heifers.*—I am sorry to be obliged to "guess" that Mr. Clift was not well paid for those very fat heifers sent to our market. I should be pleased to see his "bill of items" of the cost of putting so much fat on two set of ribs. Is it profitable? [Yes; undoubtedly.] That is a question of most importance.

*Experiments with Guano.*—If you will never publish another article upon this subject, I am willing to concede that guano (huano is the proper name) is the very best manure on earth, or under the earth, or in the air, fire, or water of the earth; but I never will concede that it is good economy to import manure, and waste it, when we might use home-made. I have done with this subject. [My dear Reviewer, don't be so savage over the produce of innocent sea-fowls.]

*Polled Cattle.*—I always did like them, and don't know what we grow horns for, now the farmers' girls are all too proud to wear "horn combs;" and "horn spoons" are entirely out of fashion. The only use I know for cattle horns, is, to hook sheep to death, or occasionally kill a fine horse, or themselves. As for your assertion that farmers don't regard "*any point at all*" in breeding cattle, it is just no such thing; for, with a few exceptions, like your correspondent, they almost universally regard two very *pointed* and useless horns.

*To keep Land in Grass.*—The soil that "a young farmer" speaks of, is probably a sandy one. In that case, it is better not to try to *keep* the land in grass; but sow seed with all small grain, and then break up the meadows whenever it fails—this is my experience.

*Hood's Balance Gate.*—Something new, and I should think would suit a southern latitude, where, if a man should, "Yankee fashion," build his house almost into the road, he would be set down as "no gentleman;" and where every house has at least one, frequently three or four gates to pass, in the approach to it; "I reckon," such a gate would be "right smart convenient." But the dimensions should be given, and the cost also would be useful. They won't suit all latitudes.

*The Garden, No.* 2.—This title is too nearly synonymous with "Gardening, No. 2," and should have borne the title of that. But no matter for titles. But few will read the article, and less practise its recommendations. Our American ladies are entirely too effeminate and dyspeptic; and ridiculously full of affectation of delicacy, to engage in so healthy and happy an employment as cultivating the garden. Unpalatable truths these, but truths nevertheless. I wholly despair of inducing the present race of farmers' daughters to return to a life of usefulness, and the time and talent employed in providing such articles as this for their use, is labor lost. I am more disposed to handle this great error in female education " without gloves." Catch a farmer's daughter in this age of piano thumping, trundling that wheelbarrow, and I will believe in miracles in all time to come. Have patience, I am near a stopping place. A word on

*Country Schools.*—This article is too discursive; a fault of nearly all writers, using too many words to make a point. I acknowledge my own fault in this particular, but I *larnt* it in these same " country schools," and I learned but very little at them of any real benefit to me in the ordinary pursuits of life, and I never saw one conducted upon the principle of teaching children things and *meaning* of words, instead of mere sounds. I would advise " E. S." that some Southern mothers as well as Northern ones, would make but poor " maternal inspectors of the education of their own girls;" and " good governesses" are not so plenty as blackberries at the North, or black babies at the South.

*The Farmer's Dictionary.*—One of the best evidences of an improved state of feeling in the public mind is, that such works by such men are undertaken to be written and published, sold, and read; and when ten years ago we could not find a half dozen volumes, upon any agricultural subject, of American printed books, we can now form a handsome library.

*Observations on the Potato Disease, &c.*—I have no objection to see every one light his taper to illumine this subject, but the cure is yet in darkness. No more is yet known of this disease, as to its cause or cure, than is known of the Asiatic cholera. The theories upon both cases are about equally numerous and contradictory.

*The Naturalist.*—If I was reviewing that work, I should say that some of its articles were a *little* too prosy, to suit the taste of Southwestern agricultural readers. As I am really anxious for its success, I am sure friend Fanning would take it in kindness if he knew from whence the hint came, when I tell him that he must make the " Naturalist" more interesting than the " Agriculturist" was, or it will never be supported in his latitude. I speak knowingly, and advise for good.

*Treatise on Domestic Economy.*—I wish I had this work before me, I should like to review it. That American ladies need improving " mentally and physically," I have just said, and therefore agree with you that " there is great need."

I did intend to review the " Premium List for 1845," but I find I am getting prolix, and will therefore only say that 25 premiums of Coleman's Tour certainly show a very strong partiality for a work essentially English, over some others that I think none the worse of for being American. Without any disparagement to Coleman's Tour, I do say that one volume of the American Agriculturist would be worth more, and would be more read by nine-tenths of the recipients of those premiums than all the numbers of this much-puffed " Tour;" and unless the later numbers show a vast improvement over those that I have seen—and I can find ten thousand backers to this opinion. I have said my say.

I shall continue my comments upon one more No., and by that time we shall probably get some answer to your call upon your readers " anent this matter," as to whether I shall continue the work of a REVIEWER.

## GARDENING—No. 6.

HAVING glanced at the Vegetable Kingdom, considered geographically and historically, let us treat upon the objects of vegetable culture as connected with the subject now before us, which is as follows:—1. To multiply plants. 2. To increase their number and retain or improve their qualities. 3. To increase their magnitude. 4. To form new varieties for the furtherance of all or any of the above objects. 5. To propagate, and preserve from degenerating, approved varieties. 6. To preserve vegetables for future use. The first step for all these objects in common, is to procure the desired plant, either by removing it in an entire state from its native situation, and planting it in an appropriate one; or by gathering and sowing its seeds; or by propagating from a part of the plant itself. Hence the general origin both of agriculture and gardening, and of all the different modes of propagation, transplanting, and collecting seeds. The next step is to secure the plants to be cultivated from the depredations of animals, or unsuitable weather. Hence the origin of fences and enclosures, and plant-habitations. A third step, common to all the above objects of culture, is to remove from the vicinity of the plant to be cultivated, or from the plant itself, all other plants, or animals, or objects likely to impede its progress. Hence the origin of weeding, thinning, destroying insects, and curing diseases.

To increase the number and retain the native qualities of vegetables, it is necessary to imitate, as exactly as circumstances will admit, their native habitation, in respect to soil, climate, mode of watering, light, &c. If the habitation is in any way ameliorated, the qualities of the plant will be altered, and its parts enlarged, which is not desired. All that is necessary, therefore, for effecting this branch of culture, is to imitate the habitation, and to propagate. This ought to be the case wherever plants are grown for medical or scientific purposes, as in herb and botanic gardens.

To increase the magnitude of vegetables, without reference to their quality, it is necessary to afford them an increased supply of all the ingredients of food, distributed in such a body of well pulverized soil as the roots can reach; and of heat and moisture. They should also be partially excluded from the direct rays of the sun, so as to moderate perspiration; and from the wind, so as to prevent sudden dryness. Nature gives the hint in the occasional luxuriance of plants, accidentally placed in favorable circumstances; man adopts it, and, improving upon it, produces cabbages and turnips of twenty-five pounds weight, and apples of one or two pounds; productions which may, in some respects, be considered as diseased.

To increase the number, improve the quality, and increase the magnitude of particular parts of vegetables, it is necessary to remove those parts which are not wanted, such as the blossoms of bulbous or tuberous-rooted plants, when the bulbs are to be increased; the over-luxuriant wood-shoots and leaf-buds of fruit trees; the flower-stems of some, and the male flowers and runners of others. Hence the important operations of pruning, ringing, cutting off large roots, and other practices, for improving fruits, and throwing trees into a bearing state. At first sight, these practices do not appear to be copied from nature; but man, though an improving animal, is still in a state of nature, and all his practices, in every stage of civilisation, are as natural to him, as those of the other animals are to them. Cottages and palaces are as much natural objects as the nests of birds, or the burrows of quadrupeds; and all the laws and institutions by which social man is guided in his morals and politics, are no more artificial than the instinct which congregates sheep and cattle into flocks and herds, and guides them in their choice of pasturage and shelter.

To form new varieties of vegetables, as well as of flowers, and of useful plants of every description, it is necessary to take advantage of their sexual differences, and to operate in a manner analogous to crossing the breed in animals. This practice is but an imitation of what takes place in nature by the agency of bees and other insects, and of the wind; all the difference is, that man operates with a particular end in view, and selects individuals possessing the particular properties which he wishes to perpetuate or improve.

The preservation of vegetables for future use is effected by destroying or rendering dormant the principle of life, and by warding off, as far as practicable, the progress of chemical decomposition. Hence the herbs or roots, or fruits of some vegetables, are dried; others are placed beyond the reach of the active principles of vegetation, as seeds, cuttings, scions, roots, and fruits; and some are, in addition, excluded from the air, or placed in very low temperatures.

The whole of gardening, as an art of culture, is but a varied development of one or more of the fore-named practices, all founded in nature, and for the most part rationally and satisfactorily explained on chemical and physiological principles. Hence the great necessity of the study of botany to the cultivator. L. T. Talbot.

## VINDICATION OF THE DUKE OF KENT'S STRAWBERRY.

In the Boston Magazine of Horticulture, the editor censures Mr. Thomas for recommending the Duke of Kent Strawberry for cultivation, pronouncing it " quite worthless," and seals its fate by saying the London Horticultural Society deem it of no value. When that learned body, and the English gardeners shall have progressed so far as to have discovered that there are two separate and distinct plants in the strawberry, the one defective in the male, and the other in the female organs, to a greater or less extent, and the difference in their size and appearance so great that a blind man can distinguish the blossoms at the distance of twenty feet, I shall pay proper respect to their opinions. I have cultivated the Duke of Kent's several years, to impregnate Mr. Hovey's seedling, and deem it next in value to that valuable strawberry. It is the only plant I have ever met with that comes near meeting Mr. Downing's fancy of a perfect plant. (I here, of course, except the alpines.) It has four merits to recommend it. It is an early fruit; a good bearer, of fair quality; and what forms its chief quality, and gives it a preference over all other staminates as an impregnator, is, that it can, by its leaf and growth, be at all times distinguished from Hovey's seedling, and other valuable pistillate plants. It has this peculiarity of blossom, whilst a large portion of them are perfect in both organs, some will be found on the same stem wholly defective in the male organs, and depending on their neighbors for impregnation. There are many famous English staminates, and Hovey's Pine and Buist's seedling among them, valuable as impregnators; but in my opinion, as impregnators only. The objection to them is, that they will not average one-third of a crop, and are not so distinct in appearance as the Duke of Kent's.

The Roses Phœnix is one of the best bearers among them, but I have never yet seen it bear one-third of a crop of perfect fruit. I this season gave the famous English varieties, the Swainstone, Downton, Emperor, Myatt's Pine, and some others, a fair trial; not one-half of their blossoms bore perfect fruit. Even our scientific English gardeners now distinguish the difference between the staminate and pistillate blossom, and the barren character of the former, and their indispensable necessity for impregnating Hovey's, and other pistillates; but gravely assure us all blossoms were perfect in both organs in England — that it is a change effected by our climate, and that they would at once change their character if sent back to England. I trust Mr. Hovey will, by experiments, this season, ascertain the character of his old seedling, and that his experiments will be sanctioned by the report of the committee of the Boston Horticultural Society, and other cities in future be supplied with this delicious fruit, as abundantly and as cheap as we are in Cincinnati, and a theory heretofore denounced by the learned, because it was first practised by an illiterate market woman, received with favor. My only fear is, that the poor woman may have her merit detracted from, by their showing, that although Linnæus scouted at it, the doctrine was fully tested and believed in by some of his disciples; that even Kean discovered it, in one variety, and made it known to the London Horticultural Society.

*Cincinnati, June* 19, 1846. N. Longworth.

To make Water cool for Summer.—The following is a simple mode of rendering water almost as cold as ice:—Let the jar, pitcher, or vessel, used for water, be surrounded with one or more folds of coarse cotton, and be kept constantly wet. The evaporation of the water will carry off the heat from the inside, and reduce it to a freezing point. In India, and other tropical regions, where ice cannot be procured, this is common.

What is Blight?—It is a sun-stroke, or a frost-bite, a plague of insects, or of fungi, a paralysis of the root, or a gust of bad air; it is wetness, it is dryness, it is heat, it is cold, it is plethora, it is starvation; in short, it is anything that destroys or disfigures foliage. Can a definition be more perfect? We should expunge the word as a substantive term from our language, and only use it in its adjective sense.—*Dr. Lindley.*

## HINTS ON THE CONSTRUCTION OF FARM-HOUSES.

Any one may see that a decided taste is beginning to manifest itself at the present moment in rural architecture. Everywhere, in the Middle and Eastern States, one sees that the newly-built cottages and villas are no longer in those clumsy and unmeaning forms that ten years ago so generally prevailed.

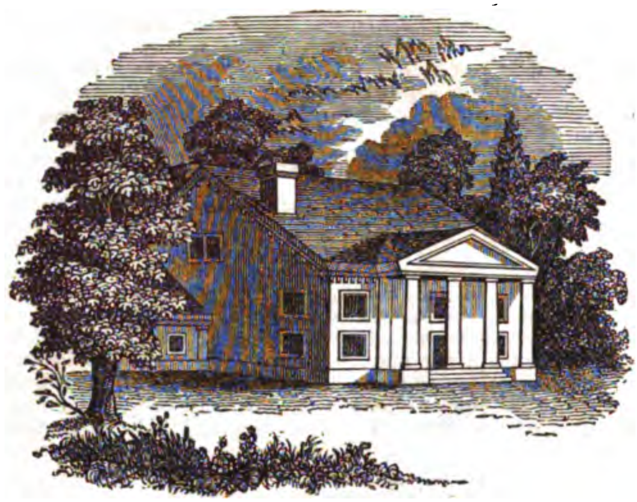


Fig. 58.

This is a most hopeful and encouraging symptom. It tells us very plainly that our country proprietors have begun to give some thought to the construction of their own houses; that they are no longer content with what the nearest carpenter or mason may have to offer as the latest style; that they have at least a desire for something fit for their own wants, the beauty of which is of a kind, becoming and suitable to the purpose in view.

In this aspect of things, nothing is more to be desired, than the general prevalence of correct principles of taste among our agriculturists of intelligence.

The Farm-house in this country is not the hovel of the serf—is not the hut of a peasant. It is the cottage of a freeman—the proprietor of the soil he cultivates. It is the home of the best virtues and the soundest hearts. It must necessarily—if it be true to itself—give a character of moral and physical beauty to the whole rural scenery of the Union. Let us not deny, therefore, the importance of the farm-house. It seems to us to be worthy of the attention of every one who would render our country life expressive of its true usefulness and beauty.

We should be glad, in this brief space, to say a few words about farm-houses; our limits will, however, only permit us to point out a few errors into which our country builders have hitherto fallen. Something may perhaps be gained even by considering the mistakes into which those most commonly fall, who have built with little reflection.

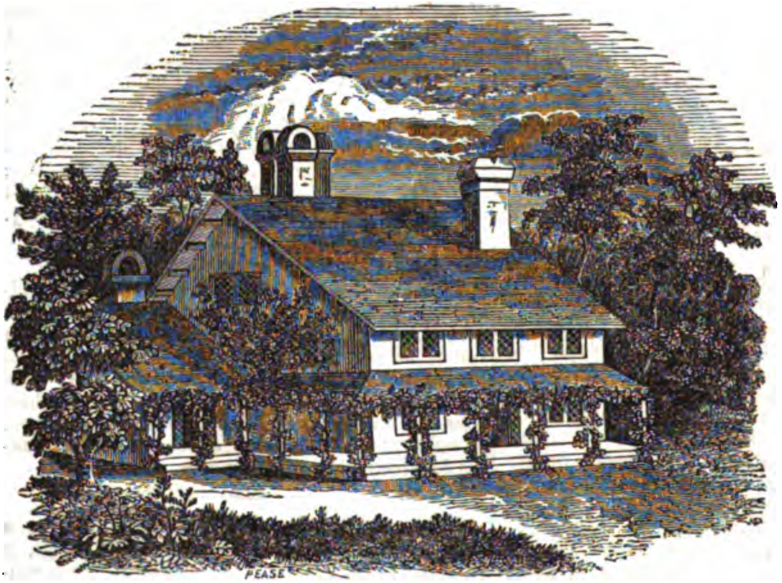


Fig. 59.

In the first place, we think a farm-house should be *unmistakeably a farm-house*. That is to say, it should not be a citizen's dwelling-house, or a suburban villa, set down in the midst of a plain farm.

Nothing has been more common for the past ten years, than to see a good substantial farmer building a large plain dwelling—unobjectionable enough as a plain dwelling—but to which he has been persuaded to add a Grecian portico (fig. 58), copied from a great house of the neighboring town or village.

The portico is very well where it belongs—as a part of a handsome villa, every part of which is carefully finished with corresponding elegance. It has nothing whatever to do with a true farm-house It is too high to be comfortable by its shade or shelter. It is too costly and handsome to accord with the neat and rustic character of a farm-house. But it has been the fashion of the day, and if the farmer has not reflected for himself, it is ten to one that he has fallen a victim to it, instead of employing the more comfortable and more characteristic verandah. Fig. 59.

Another of the greatest mistakes in building a farm-house, is to adopt anything like a *flat roof.* Fig 60. A broad and rather high roof is as essentially a handsome feature in a farm-house, as the expanded chest and broad shoulders are in the farmer himself. It is a kind of beauty that springs out of a most natural and enduring source—manifest utility.

The roof of a farmer's house ought then to be high, so as to give him an ample garret—that useful store-house of country varieties. It ought to be rather steep, to bear and carry off rapidly the burdens of heavy snows and the violence of wintry storms. It ought to be strong, and little liable to speedy decay—that the purse may not be called on for frequent repairs.

The flat roof comes to us from southern countries and mild climates. In town-houses, and ornamental villas, in the classical styles, let the architect satisfy the demands of art with such a covering to his house. But in the exposed farm-house, in our blustering, sturdy weather of the north, the farmer should have none of it. He must nestle under the high and broad roof which properly belongs to a northern climate. Fig. 61. This has all the beauty of thoroughly answering its purpose, and conveying at a glance the most complete notions of comfort.

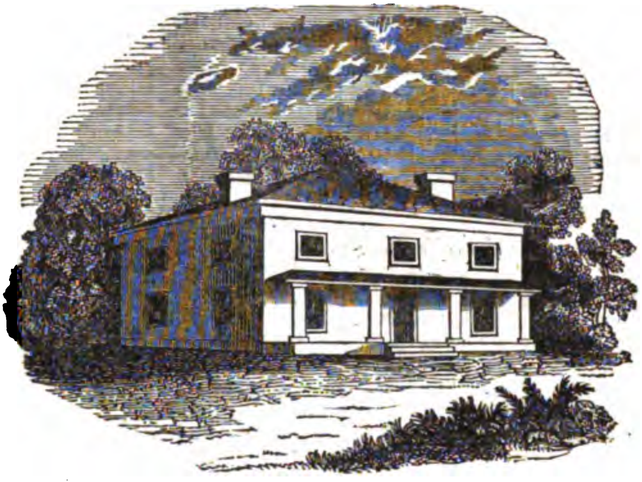


FIG. 60.

When it is desired to render a farm-house ornamental, it is the most fatal, though the most common of all mistakes, to suppose it should be done by the imitation—the meagre imitation of some gentleman's fine house. It is a mode that is never successful. It is the old story of the jay in his borrowed peacock's plumes. Every one detects and exposes the want of fitness and propriety. Fluted columns, ornamental pediments, moulded friezes, and the like, have little or nothing to do with farm-houses. They will give an ambitious and flashy character to the front; it will be belied by the useful and *every-day* character of the rear.

The truth is, a farmer's house looks as ill when bedecked with the stolen ornaments of a highly architectural villa, as the honest dignified, plain farmer himself would, if tricked out in the fashionable finery of the reigning Paris exquisite. The beauty of *propriety* is a species of moral beauty, even in houses and clothes.

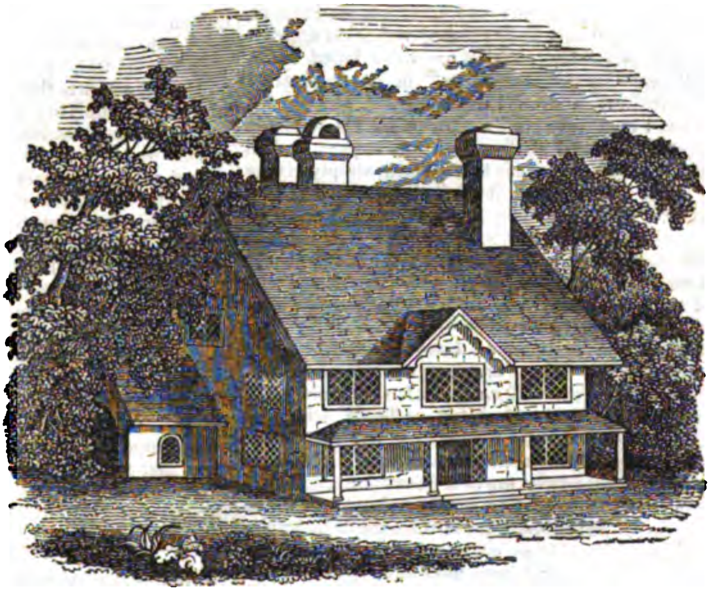


FIG. 61

There should be a kind of homely, country-like air about every genuine farm-house. It ought at the first glance to be recognized as belonging to the open meadows, orchards, and pastures, that surround, and the fresh luxuriant trees that wave over it. It should be neat and strong, and capacious and comfortable. If something is wanted beyond this—and we are sure our farming countrymen will more and more desire a manifestation of the agreeable about their houses—then, should something ornamental *combine itself with the most important and useful features* of the house let a *verandah* be added, which may be adorned, not so much with expensive pillars, as with beautiful and fragrant climbing plants. Let the porch be made a suitable covering to the principal entrances. Let the gables be enriched with simple ornaments, and the chimney stacks be built in some pleasing forms. These are the first points that really demand attention in a farmer's house, which we wish to raise to its highest expression of fitness and beauty. Some examples of this kind of rural architecture we hope to be able to offer at no distant time. These trifling hints may perhaps lead some agricultural friend to consider what is essential to the character of a farm-house, and thus at least prevent his marring the beauty of simplicity and propriety.—[From the Transactions of the N. Y. State Agricultural Society, for 1845.]

A. J. Downing.

*Highland Gardens, Newburgh, Jan.*, 1846.

## PRESERVATION AND APPLICATION OF MANURES.

There is nothing so important, in the art of agriculture, as the *restoration* and *preservation* of the *fertility of the soil.* As the proper mode of preserving and applying manures contributes greatly to this object, nothing should more sedulously engage the attention of farmers. Liebig's celebrated work on organic chemistry contains a great deal of valuable information on this subject. But as this work is in the hands of but few farmers, I have thought I could not render a more acceptable service to them, than by collecting, in a more condensed form, the highly important suggestions, on this subject, of this distinguished writer on agriculture and physiology, which are to be found in his work on "Organic Chemistry," in its application to Agriculture, and on Physiology.

That I may have the authority of his name in support of what I shall say on this subject, I shall make frequent references to his work, simply giving the page. And I wish it distinctly understood that wherever there is a reference without the name of the author, it is to the above work.

Manures may be defined to be those substances which are capable of being *assimilated* by plants, and which serve as *food* to promote their growth, and bring them to maturity—p. 53–4. They are either of the *organic*, or *inorganic* kind. The *elements* of the former are oxygen, hydrogen, carbon, and nitrogen. *These elements* are furnished to plants in the form of water, carbonic acid, and ammonia—p. 147. The *inorganic* substances are found in the ashes, after the incineration of plants —p. 147. These latter are of a fixed nature, and cannot be lost by evaporation, nor by being transformed into gases. But the *elements* of the organic manures, in an *uncombined state,* commonly exist in the form of a volatile gas, and are, therefore, more subject to be lost to the agriculturist than manures of the *inorganic* kind.

It has, however, been wisely arranged by a kind Providence, that these gaseous substances shall contribute amply, aided by man's industry, to the nourishment of plants and animals.

The atmosphere, by which the earth is surrounded, is composed of one-fifth oxygen, and four-fifths nitrogen, nearly, and contains 1-2500 part, by weight, of carbonic acid—pp. 55 (note) and 167. As small as this proportion may appear, Liebig remarks that, "it is quite sufficient to supply the whole of the present generation of living beings with carbon for a thousand years, even if it were not renewed." Here, then, is an ample sufficiency of oxygen and carbon, provided plants are capable of assimilating these substances.

Now it has been well ascertained, that all plants growing in contact with the atmosphere absorb carbon and oxygen, not only by their roots, when the soil is kept loose and pulverized, so that the air can obtain access to them, but still more abundantly by their leaves, and other green parts—pp. 172–3, 179—80–3.

Liebig remarks, that by loosening the soil which surrounds young plants, we favor the access of air, and the formation of carbonic acid; and on the other hand, the quantity of their food is diminished by every difficulty which opposes the renewal of air—p. 106. In the preceding page he says an atmosphere of carbonic acid surrounds every particle of decaying humus.* Hence may be seen how important it is that farmers should keep the soil about growing plants in a complete state of pulverization.

Water is composed, by weight, of one part of hydrogen, and eight of oxygen—p. 122, note. And as plants possess the power of decomposing water—p. 122; and assimilating hydrogen, one of its component parts, they have thus an opportunity of acquiring this ingredient of their composition. During the progress of growth, plants appropriate carbon in the form of carbonic acid and hydrogen from the decomposition of water, the oxygen of which is set free—p. 125.

Thus it appears that nature has made ample provision for supplying growing plants with oxygen, hydrogen, and carbon; the *second* by the power which plants possess of decomposing water, and the other two by their capacity of absorbing them from the atmosphere. Carbon is absorbed so abundantly from the atmosphere, that, in the opinion of Liebig, plants need none from the soil *after* the formation of their leaves; and, in his opinion, they give back to the soil more than they receive from it—p. 116. The decomposition of water furnishes a full supply of hydrogen, and oxygen is supplied not only from the atmosphere, but from water, which contains the element in solution—p. 214.

But although four-fifths of the atmosphere is composed of nitrogen, yet as plants have not the power of decomposing it, they can derive no nourishment from that source. Yet this element is so essential to the growth of plants, that Liebig is of opinion they cannot "attain maturity, even in the richest vegetable mould, without the presence of matter containing nitrogen."—p. 126.

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* Humus or geine, as it is called by Berzelius, includes all the decomposed organic matters which are found in the dark surface soil of rich lands, in various states of combination, such as humic, crenic, and appocrenic acid, &c. &c.

Before the time of Liebig, it was a matter of great doubt whence the nitrogen was derived, which was found in the composition of plants, and without which they could not attain maturity. To him we are indebted for the discovery, that this essential food of plants is derived from ammonia,* a gaseous substance contained in the atmosphere, and being extremely soluble in water—p. 130—is brought down to the earth by dews, rain, and snow, and thus furnishes *growing plants* with nitrogen, an ingredient indispensably necessary to their existence. Ammonia has a powerful affinity for water; consequently that portion of it, which is not taken up by the roots of plants, is liable to be carried off by evaporation, unless the soil *contains*, or is *furnished* with, substances capable of converting it into a salt, and thus fixing it in the soil. Liebig has entered into some nice calculations to show what quantity of ammonia is given to the soil by rains, dews, and snows, *annually*—p. 131; but is of opinion that the quantity, though great, is not sufficient for the purposes of agriculture—p. 141, and hence the necessity for an additional supply, which I will hereafter show may be supplied by stable and other manures of the solid and liquid kind. As the nitrogen furnished by ammonia is so essential to the growth of plants, and as the quantity thus obtained is not a full supply, and a part of it is, moreover, liable to be carried off by evaporation, it is of the utmost importance to agriculturists to use the most efficient means of fixing it in the soil, as it is brought down by rains, dews, and snows.

This may be completely effected by strewing a small quantity of gypsum upon the soil, which, combining with ammonia forms soluble sulphate of ammonia and carbonate of lime, which, possessing no volatility, is retained in the soil—p. 142.

Gypsum is very slightly soluble in water, and is very slowly decomposed by carbonates, and hence it may continue in the soil for several years—p. 144.

Powdered charcoal acts in a similar manner, and has a powerful tendency in fixing ammonia in a soil—p. 146. Decayed wood has also a similar tendency, and is almost as powerful as charcoal—p. 146.

Each of these substances may be resorted to for fixing in the soil the ammonia derived from the atmosphere, but undoubtedly ground gypsum (sulphate of lime) is the best adapted to the purpose, and ought to be resorted to, if to be obtained upon reasonable terms.

It is proper to remark that some soils have already a due proportion of gypsum combined with them; and in that case no additional supply will be needed. This can be best ascertained by analyzing the soil.

Before I proceed to speak of stable and other manures, in the solid and liquid form, I must take some notice of the inorganic manures, that is, of those substances which are found in the ashes of plants.

Upon the incineration of every species of plants there are found, in the ashes, certain inorganic substances of such a fixed nature, that they cannot by any degree of heat be made to assume the gaseous state. Among these are the alkalies, and the alkaline earths, phosphates, silica, manganese, oxides of iron, &c., and various acids, combined with alkalies, and alkaline earths, &c. All these inorganic substances are not found in every species of plants; but that they are essential to the growth of plants, in whose ashes they are found, is an irresistible inference from the fact, that they are *invariably found* in such ashes, with this exception, that one alkali or alkaline earth may be substituted for another. Thus, if a plant, in whose ashes *soda* is usually found, should be planted in a soil where there is potash, but *no soda*, upon incineration there will be found the alkali *potash*, which has thus been substituted for the alkali soda, and so *vice versâ*. And if there should be neither soda nor potash, in the soil, these plants, whose appropriate food is *soda* or *potash*, would substitute one or more of the alkaline earths in its stead—p. 200. And the acids combined with these alkalies, are *always* in proportion to their bases, so that the quantity of the one *always regulates the other*—pp. 148-9-50.

Nothing can more strongly show the absolute necessity of alkalies, or alkaline earths of one kind or another in plants. For if they are so situated as not to be able to procure a supply of their appropriate alkali, they invariably supply themselves with another, or even with an alkaline earth as a substitute. But one or the other *they must have*. Certain inorganic acids are also essential to the growth of plants, but these are always found combined with their bases, and in *suitable quantity*. Phosphoric acid has been found in the ashes of *all plants* hitherto examined, and always in combination with alkalies, or alkaline earth—p. 200.

Among the inorganic substances, the alkalies are the most important. They are found in different plants in the form of silicates, tartrates, citrates, acetates, oxalates, &c.—pp. 214-15. So important, in the opinion of Liebig, are alkalies in a soil, that even those which are the richest in humus must become barren and unfruitful when their alkalies are exhausted, and will remain so until they shall again be supplied with a due proportion of these indispensable ingredients—p. 196. Some of the inorganic substances exist in such great abundance that there is no danger of there ever being a deficiency in the soil. Among these is silica—p. 215 (note), an ingredient which is essential to all plants of the grass kind—p. 200; and to all the grain tribe. The inorganic acids, or such as combine with inorganic bases, also exist in great abundance, so much so that wherever the base is found, it is accompanied by its due proportion of acid. Liebig says the most important object of agriculture is to furnish the soil with *nitrogen*, "in a form capable of assimilation"—pp. 233-4. He might have added that it is equally important where alkalies are deficient, or when they have been exhausted, that they should also be supplied.

It has been seen, that of the *organic* manures the *only one* not furnished, in adequate quantity, by the atmosphere, and the elements of water, is *nitro-*

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* Ammonia is a compound gas, consisting of one volume of nitrogen, and three of hydrogen.

*gen*, and that, among the *inorganic* manures, the most important are the alkalies and alkaline earths. I will now proceed to inquire whence the deficiency in these indispensable ingredients can be derived. It has already been shown that a large proportion of the requisite supply of nitrogen is obtained from the ammonia of the atmosphere. A part of the unavoidable want of the alkalies, and other inorganic ingredients, is derived from the same source. Liebig, when treating on this subject, remarks that, "as thousands of tons of sea-water are annually evaporated into the atmosphere, a corresponding quantity of the salts dissolved in it, viz., of common salt, chloride of potassium (a combination of chlorine and potash), magnesia, and the remaining constituents of sea-water, will be conveyed by wind to the land." "By the continued evaporation of the sea, its salts are spread over the whole face of the earth, and being subsequently carried down by the rain, furnish to the vegetation those salts necessary to its existence. This is the origin of the salts found in the ashes of plants, in those cases in which the soil could not have yielded them"—p. 166.[*]

An attentive consideration of the foregoing suggestions will show the importance of serving and applying not only the alkalies and alkaline earths, but also stable and other manures, in which more or less *nitrogen* is contained. These are ingredients essentially necessary to all growing crops, and which are furnished the most sparingly by a bountiful Providence, and hence the necessity for the care and industry of man, not only to preserve those which are supplied by nature, but to collect and apply those which are placed within his reach. This is a subject of too much importance to be passed over lightly, and as this article is already sufficiently extended, I must postpone any further remarks upon it for the present.

*Prospect Hill, Ky., June*, 1846. A. Beatty.

## QUERIES ON BUTTER-MAKING.

Having never met with any plain practical directions for churning, or separating the butter from milk, I have taken the liberty to call upon you for information. The time occupied by this process frequently varies very much—say from half an hour to two hours; and when we consider that during summer it has to be performed daily, a proper acquaintance with the principles on which the operation depends, is of material consequence to the farmer, and no doubt in this age of improvement, the information could easily be imparted by some of your more scientific correspondents.

The variety of opinions published from time to time, so far as I have seen, fall short of a correct system. Information on the following points seems to me to be particularly desirable:—

1. Should the entire milk be churned, or only the cream?
2. Should whatever is churned be sweet or sour?
3. Is there any point of rancidity at which the butter separates more readily?
4. By what means is such a point ascertained?
5. Is there any advantage to be derived in the use of saleratus when the butter is hard to come?
6. Will sour milk produce more butter than fresh?
7. What is the proper temperature for the process of churning?
8. How many revolutions per minute should the dash make, in a semicircular churn?

Answers to the above queries, with any other information on the subject, will much oblige

*June* 29, 1846. A Subscriber.

Our correspondent will find many plain, practical directions on butter-making, in our back volumes, particularly in Vol. 1, p. 126; Vol. 2, p. 263; Vol. 3, pp. 48 and 237; Vol. 4, pp. 234 and 320. Questions 1, 2, and 6, parties differ entirely in their practice, churning either milk or cream as is most convenient. Some contend that sour milk or cream gives the most butter; others, equally practical, deny this, and say, that it makes no difference. Questions 3, 4, and 5, we cannot answer. Question 7. In New York the milk is churned at a temperature of 50 to 60 degrees; in England at 60 by horse or water power, and as high as 68 by hand power. The reason for churning at a lower temperature by horse power is, that the motion is quicker and steadier than by hand. When the temperature is as low as 50 degrees, the butter is a long time coming; at 60 to 65 it comes very readily. Question 8. The dasher is generally moved at the rate of 60 to 75 revolutions per minute. We shall be obliged if any of our readers can reply to "A Subscriber" more fully and exactly than we are able to do.

## DOMESTIC FISH-PONDS.—No. 3.

*Operations of Spawning and Hatching.*—From careful examination made by those who have attentively studied the habit of oviparous fishes, the natural processes of spawning and hatching appear to be well understood; the hard roe of a fish being composed of a great number of small, roundish substances like little seeds, each of which is called an *ovum* or egg, and produces, when hatched, a fish. In some kinds of fish, these ova undergo a development, more or less complete, in the oviduct of the parent, while, in others, they are further perfected in water—although, in several instances, they seem far from being understood, and no description of the process has ever been attempted.

The natural spawning-bed, of many species, it is now well ascertained is not made by the plowing of the fish's nose, as has been asserted by some; but by the action of the tail of the female, throwing herself at intervals of a few minutes each, upon one side, and while in this position, by the rapid movement of the tail, she digs a hole in the gravel for the reception of her ova, a portion of which she therein deposits; and again turning on the side and covering them up by the renewed action of her tail,—thus alternately digging, deposit ing, and covering the ova, till the process is completed, which often occupies three or four days.

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[*] According to Marcet, sea-water contains chloride of sodium, sulphate of soda, chloride of potassium, chloride of magnesium, and sulphate of lime. These are the most important ingredients among the *inorganic manures*, and amount to about 40-1000 parts of sea-water. (See note, p. 166.)

The subject of artificial hatching has been much elucidated by the labors of Professor Agassiz, Sir Francis McKenzie, and others, particularly by Mr. Shaw, who has long and successfully been engaged in the artificial process, in his highly interesting investigations on the growth of salmon, at Drumlanrig, in Scotland. How long the ova may remain extruded from the body of the female, and continue susceptible of the fecundating influence of the milt of the male, has not, as far as my knowledge extends, hitherto been ascertained. Mr. Shaw states that, "in one instance, the female had been dead for nearly two hours, without the vital principle being in the slightest degree affected." Nothing can be simpler than collecting the spawn which has recently been impregnated; or than fecundating it artificially, by securing the parent fishes, when engaged in the process of spawning, confining them in some receptacle, prepared for them, and then disposing it at pleasure. If left in its native bed, immense quantities are consumed, both in the state of ova and young fry, by older individuals of their own species, by fish of other kinds, by newts, lizards, aquatic birds, and various other foes; whereas, by a little care, the ova can be hatched in perfect security, and the young fry committed to the pond, or river, as soon as they have the ability to elude the pursuit of their destroyers.

In illustration of this subject, the following instance is quoted from an account lately published by Sir F. A. McKenzie: "On the 23d of November, 1840, four pair of salmon were caught and placed in a small artificial pool. A pair having commenced spawning, on the following day they were carefully caught, and from the female about twelve hundred ova were gently squeezed into a basin of water, and an equal quantity of milt from the male fish; the two were gently stirred and mixed, and allowed to rest for an hour, when the whole was deposited and spread in one of the wicker baskets recommended by Prof. Agassiz, having about four inches of gravel beneath them, and two or three inches above them. A similar quantity of ova, treated in the same way, was also deposited in one of the copper-wire bags used by Mr. Shaw; and both were immediately placed under water in the pool. In another instance, the ova and milt were squeezed directly into the basket and copper-wire bag, having gravel beneath, and two inches of gravel placed over them, and they, too, were deposited in the pool. Some of the impregnated ova were also buried in the open gravel about three inches deep. On the 18th of April, after one hundred and forty-six days, the baskets and bags were opened, and the young fry appeared as numerous in them, as from that which had been left free in the gravel. In one set of the baskets not above five per cent. appeared unproductive;" and hence Sir Francis's conclusion can hardly be disputed, that the breeding of salmon, or other fish in large quantities, is, comparatively speaking, easy; and that millions may be produced protected from danger, and turned into their natural element at a proper age.

Boccius, in his treatise on the "Management of Fresh-water Fish," gives in a few words the following directions for the common European trout (*Salmo fario*), which doubtless would apply to many other kinds of fishes: "Take one of the boxes I have described under the head of stew-boxes, and fill the bottom with good clean, moderately fine gravel. In the month of November, or about four weeks before spawning, place in the box a spawner and a milter of good size, sink it in a deep stream, where there is plenty of water, and when the fish have cast, take them out and turn them adrift. Then move the box into shallow water, which being influenced by the rays of the sun, will early bring forth the fry. Keep them in the box until they are about half an inch long, after which turn them out on the shoal water."

Successful experiments in spawning, have also been made with the trout by King Leopold, in Belgium, who has a large establishment for propagating fishes near his new palace of Ardennes.

Whether the plan of hatching fry under fowls, adopted by that very wonderful nation, the Chinese, can ever be practised with advantage in this country, I am not prepared to say; but, as a curious instance of the ingenuity of that extraordinary people, it may not be uninteresting to give some account of it. For this purpose the spawn is collected from rivers and lakes, and disposed of to proprietors of ponds. When the hatching season arrives, they empty a hen's egg of its natural contents, for which they substitute the spawn. The opening in the shell is then closed up, the egg put under a hen, and after a few days, is removed, reopened, and placed in a vessel of water warmed by the heat of the sun, where it is kept until the young fry are developed, and acquire sufficient strength to bear the ordinary temperature of common water. It is by such means and care as this, according to Du Halde, that the vast population of the celestial empire, even in inland districts, can obtain excellent fish, at the rate of about a cent a pound.

When once properly impregnated, the ova of all fish can be conveyed in boxes of gravel with success, as correctly stated by Professor Agassiz, in water of moderate temperature, even across the Atlantic, as safely as if they were naturally deposited by the parent fish in its new locality; so that any quantity of spawn may be conveyed from one stream to another, however distant they may be situated. D'JAY BROWNE.

*New York, July* 15, 1846.

TO MAKE BACON.—To each ham or piece of pork, weighing from 15 to 18 lbs., take one tablespoonful of saltpetre, pounded fine, one ditto Cayenne pepper, and with a sufficient quantity of Liverpool salt to be well rubbed. After this, each ham is to be laid on a plank, skin downwards, and covered well with a layer of salt. In that situation it is to be left for 7 weeks; after which, hang them up with *hock end* downwards, in the smoke-house, for 2 months. Every morning fresh smoke, and in very cold or damp weather smoke them continually. When the hams come from the smoke-house, they are to be packed down in hickory ashes.

## NEW YORK STATE AGRICULTURAL SHOW.

The N. Y. State Agricultural Society holds its Sixth Annual Show at Auburn, on the 15th, 16th, and 17th of September next.

This place was selected because of its central position, and also because of its being readily accessible to the farmers resident in the southern tier of counties, who have hitherto been less accommodated by the annual position of the show than almost any other portion of the state. But Auburn being directly on the railroad, and at no great distance from the Cayuga and Seneca lakes, where the great bulk of the business and travel of these counties debouches, it is hoped and believed that their agricultural population will feel themselves bound to co-operate with the more central counties, who are already known to make great efforts to sustain the high character of New York's annual agricultural show. If a judgment may be allowed, based upon the preparations already made, the approaching fair will be the most splendid ever held in this state. Being in the immediate neighborhood of some of the most noted breeders of cattle, sheep, and horses, there can be no doubt but that the display will be admirable. It is confidently predicted that the yokes of working cattle will be unrivalled.

The State Show has hitherto received, as it has deserved, the liberal countenance of the agricultural public. The Society's efforts to render the show attractive and useful are unabated, and it hopes that every friend of agriculture will cordially and zealously do his best to ensure at least its accustomed and annual reward.

The arrangements made by the citizens of Auburn are ample and satisfactory. *There is room, and a hearty welcome for all.*

For the first time a committee of ladies take part in our proceedings. The display of female skill and taste has always given brilliancy and lustre to the State Show, but as the whole matter is now placed exclusively in the hands of ladies, it is hoped that the wives and daughters of farmers will feel the weight and the extent of their responsibilities.

An examination of the annexed list will show that the committees are selected with care, and that they are composed of persons of great practical experience and high moral character.

The Committees on the Premium list were appointed as follows:—

*Committee of Arrangements, and for Selecting the Show Ground, and preparing it for the coming Exhibition.*—J. M. Sherwood, J. H. Chedell, C. C. Dennis, Auburn; Wm. Fuller, Skaneateles; H. S. Randall, Cortland Village; J. B. Nott, Albany; S. M Brown, Elbridge; A. Thompson, Aurora.

*Committee for Reception of Strangers.*—E. T. Throop, Willow Brook; A. Conkling, Melrose, W. H. Seward, Chris. Morgan, E. A. Worden, T. Y. How, Jr., S. A. Godwin, Auburn.

1st Class.—*Durham Cattle.*—Gov. Allen Trimble, Ohio; Henry Parsons, Ancaster, Canada West; L. Chandler Ball, Hoosack.

2d, 3d, and 4th Classes.—*Hereford, Devon, and Ayrshire Cattle.*—Elias Phinney, Lexington, Mass.; Lemuel Hulburt, Winchester, Conn.; Edward Cox, Black Rock.

5th Class—*Crosses of Native and Improved Cattle.*—Ira Hitchcock, Vernon; Lewis G. Morris, Morrisiana; John Randall, Norwich.

6th Class.—*Native Cattle.*—Wm. Garbutt, Wheatland; Thomas Hilhouse, Albany; Samuel Stevens, Preble, Cortland county.

Working Oxen.—Sanford Howard, Albany; Wm. Fuller, Skaneateles; John Ayrault, Perrinton.

Steers.—Gideon Ramsdell, Perrinton; Francis Hibbard, Cortland Village; Hiram Clift, Marcellus.

Fat Cattle.—John Holcomb, Wilmington, Delaware; Thomas Kirkpatrick, Albany; A. L. Freeman, Jordan.

Fat Sheep.—Elias W. Cady, Dryden, Tompkins co.; Wm. Osborn, Auburn; —— Hayden, Syracuse.

Stallions of all Work and Draught, and Mares.—Adam Ferguson, Watertown, Canada West; Elbert Jones, Oyster Bay; Henry K. Morrell, Caroline county.

Blood Stallions and Mares.—James Bathgate, Fordham; D. D. Campbell, Schenectady; Gen. Daniel Jones, Cold Spring, Queens county.

Best Matched and Single Horses.—Edward Long, Cambridge; William A Dutcher, Penn Yan; Wait S. Davis, King's Ferry.

Long Woolled Sheep.—Philip Reybold, Wilmington, Del.; Samuel Cheever, Stillwater; Augustus Rayner, Clarence, Erie county.

Middle Wool.—Wm. Howitt, Guelph, Canada West; Paoli Lathrop, South Hadley Falls; Benjamin Enos, De Ruyter.

Merino Sheep and their Grades.—Robert R. Reed, Washington, Pa.; Edward A. Le Roy, New York; N. B. Smith, Woodbury, Conn.; Samuel Lawrence, Lowell, Mass.; S. Newton Dexter, Oriskany.

Saxon Sheep.—Adam Hildebrand, Massillon, Ohio; Daniel Rogers, Hosack Corners; William McKee, Salem, Washington county; John A. Tainter, Hartford, Conn.; Homer Blanchard, Kinderhook.

Swine.—G. V. Sackett, Seneca Falls; P. N. Rust, Syracuse; E. L. B. Curtiss, Danby, Tompkins co.

Poultry.—L. B. Langworthy, Rochester; Thomas Hollis, Gilbertsville; Edward Mesier, Fishkill.

Plows.—C. C. Dennis, Auburn; Enoch Marks, Fairmount; S. N. Wright, Vernon.

Harrows, Wagons, &c.—Samuel Greenleaf, Canandaigua; E. P. Beck, Sheldon, Wyoming county; Israel Boies, Homer.

Corn and Cob Crusher.—George Geddes, Fairmount; Kingsley Sanford, Volney, Oswego county; Cornelius Bergen, Brooklyn.

Plowing Match.—John Johnston, Geneva; John Finch, Astoria; David Matthews, Truxton; Henry Brewer, Enfield; Paris Barber, Homer.

Butter.—Z. Barton Stout, Allen's Hill; Andrew Dickson, Cortlandville; Aaron Petrie, Little Falls.

Cheese.—Hon. Wm. C. Crain, Warren, Herkimer county; Lewis Eaton, Black Rock; Elijah Morse, Eaton.

Maple and Corn-Stalk Sugar.—Otto F. Marshall, Wheeler, Steuben county; Robert Hadfield Sheldon, Wyoming county; William Blossom, Canandaigua.

Silk.—Joel F. Belcher, Richford, Tioga county; Charles Pardoe, Skaneateles; Edw. Morgan, Aurora.

Domestic Manufactures.—Roswell Randall, Cortlandville; Curtis Moses, Marcellus; Moses D. Burnett, Syracuse.

Fruit.—John A. King, Jamaica, L. I.; W. L. De Witt, Ithaca; R. T. Underhill, New York.

Flowers.—Herman Wendell, Albany; Wm. N. Randall, Cortlandville; —— Tracey, Syracuse.

Miscellaneous Articles not Enumerated or Specified.—R. L. Allen, Buffalo; J. T. Cooper, Albany; William Jackson, Syracuse.

**VEGETABLES.**—L. A. Morrell, Lake Ridge; George J. Pumpelly, Owego; Henry Morgan, Aurora.

**STOVES AND OTHER MANUFACTURES OF IRON.**—C. N. Bement, Albany; Samuel T. Pratt, Buffalo; Franklin Manning, Syracuse.

**PAINTINGS AND OTHER DRAWINGS.**—Francis Rotch, Butternuts; —— Walker, Utica; Gen. John A. Granger, Canandaigua.

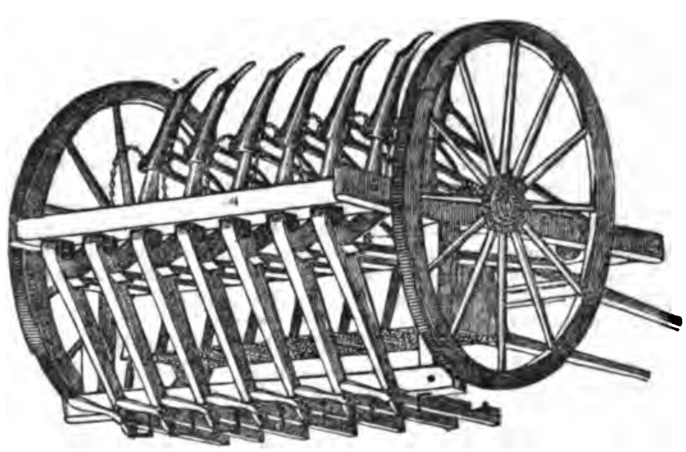
**ORNAMENTAL, SHELL, NEEDLE, AND WAX WORK.**—Mrs. B. D. Coe, Buffalo; Mrs. Hanson Cox, Auburn; Mrs. Alvah Worden, Canandaigua; Mrs. Wetmore, Utica; Mrs. W. W. Watson, Geneva.

**UNENUMERATED IMPLEMENTS, AND OTHER ARTICLES.**—J. J. Viele, Troy; J. B. Viele, Troy; J. B. Duane, Schenectady; Stephen B. Cushing, Ithaca.

**COMMITTEE TO NEGOTIATE WITH R. R. COMPANIES FOR THE TRANSPORTATION OF STOCK, IMPLEMENTS, PASSENGERS, &c., TO AND FROM THE SHOW.**—E. P. Prentice, Albany; Geo. Vail, Troy; T. S. Faxton, Utica; M. D. Burnett, Syracuse; C. P. Wood, Auburn; L. B. Langworthy, Rochester; L. F. Allen, Buffalo.

**FOR THE RECEPTION OF STOCK, &c., &c.**—Ira Hopkins, Esq., Maj. J. B. Dill, Wm. Howard, Esq.

## PENNOCK'S SEED AND GRAIN PLANTER.



PENNOCK'S SEED AND GRAIN PLANTER—FIG. 62.

THIS machine will plant wheat, rye, Indian corn, oats, peas, beans, rutabagas, and turnips; and can be regulated to drop any required quantity on an acre.

The drills can be thrown in or out of gear separately, so as to plant a field of any shape without seeding any part twice. They are so arranged as to operate equally well on all kinds of land—hilly and rough, as well as level and smooth. A man, with two horses, can put in from 10 to 12 acres with wheat in a day, and, with one horse, he can plant 20 acres with corn per day.

Pennock & Co., Kennett Square, Chester Co., Penn.

## MANAGEMENT OF HONEY-BEES.—No. 2.

*Patent Hives.*—Various forms of hives are now in use denominated "Patent Hives," the inventors of which seem to have aimed at novelty rather than at any real improvement upon hives previously in use. That some of them may, in certain locations, during favorable seasons, seem to answer the purpose for which they are intended, I do not deny; yet there are several essential points which they have lost sight of, and which I think are of vital importance to the attainment of that perfect success, which, in my opinion, is within the reach of *every* man who may choose to avail himself of it. The question may be asked, what can we reasonably expect from a hive of bees as regards a yearly profit? I answer, that every stock (so called after the first year) should, at least, give an increase of *one* swarm, and also produce a surplus of from *twenty* to *fifty* pounds of honey. When this result is not attained upon an average, from year to year, in a tolerably good location, we may infer that *we*, and not the *bees*, are at fault. In some cases, *three* and even *four* swarms have been thrown off by a single stock the same season, and twenty or thirty (and in cases of less swarms), perhaps fifty or sixty pounds of honey stands above a winter supply, but such cases are rare.

It was my intention to describe several styles of "Patent Hives" now in use, and to point out their faults (in my opinion), but as it would require more space than I feel at liberty to exact, I shall endeavor to cover the ground by showing the essential requisites in the premises upon *my* principles of management, and as it is a true saying, that "a tree is known by its fruits," I cannot but claim some substantial grounds for my system, while my neighbors, with their costly, complicated hives, find nothing but vexation and loss.

It will be observed that I, in No. 1, fixed the size of hives at twelve inches square in the clear; now, it is the body of the hive, where the *brood comb* is built, that requires our particular attention, and I have no hesitation in saying that it is a fatal error to construct hives *less* than twelve inches in *diameter*. Making up the difference in *length* will not do. The reason is this; bees, by a natural instinct, implanted in them by the great Creator of every living thing, taking possession of a new habitation, see the necessity of building a portion of their work for the express purpose of containing a supply of food when the flowers are faded and gone, and winter's bleak blasts flit around them; and also another portion for the purpose of increase of their species. They commence laying the foundation of these two distinct kinds of comb, in a great measure, in accordance with the superficies of the upper area of the line. For instance, they commence at *first* building *brood* comb, and when they have used such portions of the space as nature teaches them can be used for that purpose with safety, they then begin their *store* combs. In order to illustrate the effects of a wrong application of *space* in a hive, we will suppose a swarm to be hived in a box nine inches in diameter, by fifteen inches deep; the result would be, that the space would not admit of as many brood combs as the bees would construct in a hive twelve inches wide; but says one, "the difference is made up in *length*." Not so. After the bees have worked down some six or eight inches, they have then a tendency to build *drone* cells, which nature also teaches them are essential to their prosperity; yet they may exceed their actual requirements in this kind of cell, so much so, as to be the means of the impossibility of their ever doing well, in consequence of there not being a proper proportion of *worker* cells in the hive, causing a sparseness in the only kind of bee that is manifestly of use, at the same time producing a legion of lazy drones that gather no honey, but consume the scanty supply stored by the workers, too weak in numbers to be able to afford a particle of their labors to be lost. This, I contend, is *one* cause of ill-success, and if any of my readers has hives of such dimensions, or of any dimensions in which the *depth* exceeds the *breadth*, I would advise him to look to it; for, in order to have bees prove as prosperous as it is possible for them to be, they must be able to give all the increase that nature would grant them.

I will now give a view of the *tout ensemble* of my hives, in order to arrive at other no less important points. The material is prepared as for a hive twelve by twenty-one inches in the clear. At a distance of twelve inches from the bottom, a centre or dividing board is placed with six holes about one inch in diameter, through which the bees pass into the boxes above. These holes are so arranged that *three* of them come under the centre of each box. The top board or cover of the hive projects an inch or two over the sides all round. At the back of the hive, a door of the size of the upper space is placed, which may either be hung on hinges, or so secured by two wooden or brass buttons, with a small knob in the centre, as a handle. This part of the hive is secured against rains by having the back fitted in with a groove, and the centre-board extending one-half its width above the division connecting the main part of the hive with the door, and being made on a level at this junction, and the door to correspond, causes the water in the out-door apiaries to run off without the least detriment to the operations of the bees. This upper space is of no importance as regards the general welfare of the bees, and it may be just as large as one pleases, only that I consider a space of eight inches by twelve as large as we should exact the bees to fill, as our chief security lies in seeing that they have an ample supply of honey for winter consumption, and two boxes made very light and thin, fitted to fill the above space, will contain about thirty pounds, which I deem a sufficient tax upon the labors of the bees generally; under some favorable circumstances these boxes may be emptied and replaced for a second filling with safety. These boxes should have an opening at the bottom, and the inner edges, to admit the bees to pass from one box to the other, for where the box is filled first, the bees remain inactive, without any regard to the partially filled one adjoining. I think that one box is preferable to two as far as regards the facility afforded the bees in storing honey; for more honey can be obtained from them with a single box filling the space, but it is not as convenient for those who vend their honey.

We now come to the bottom of that kind of hive which I am attempting to describe. I said that I made the body part of my hives one foot square, but it is very important that a little inclination should be given to the bottom board from back to front, and to effect this, I make a difference of one inch between the depth of the front and back sides of the hive; say, front twelve and a half inches, back eleven and a half inches. This I think fully sufficient to answer the purpose, being principally to carry off water and afford the bees facility in removing dead bees, &c. The bottom board is made to fit, except it projects two or three inches in front, and it is hung with wires about three-eighths of an inch from the bottom. This kind of hive is a combination of the good qualities of hives now in use, adapted in size to ensure success. T. B. Miner.

*Ravenswood, L. I., July* 6, 1846.

## CULTIVATION OF CORN.

Under the above head, Dr. Philips of Mississippi wrote an article which appeared in our June number, page 183. In it he wished us to make an extract from the Anniversary Oration, delivered before the Burke County Central Agricultural Society of Georgia, by M. C. M. Hammond. Our copy of this oration being mislaid, we could not do so at the time, but having procured another, we now give it to our readers. So far as we are capable of judging, the method recommended by Mr. H. is highly worthy of practice at the south. He says:

"But our common culture I fear has its evils, and with the hot sun, must share the responsibility of failure. Perhaps we usually work our corn too late in the season, and thus cut the roots at the critical periods of tasselling or shooting. We may plant too wide apart, in the stronger lands particularly, and lose the benefit of shading the soil, which checks the growth of grass and protects the roots. We should break the land deep at first, since the roots will not spread so much if they can descend, and will be less apt to be cut, will gather more nutriment when manured in the hill, and suffer less in a dry season, provided the surface has strength to impel them to the clay sub-soil where moisture is perpetual. We should plant early, since it always increases the grain, and is equally important to gather as early as it can be preserved, for here likewise the grain is augmented. In short, by careful experiment and judicious reflection, I have no doubt any ill effects of climate may be overcome, and this invaluable plant grown in its utmost perfection on our soil and under our sun; and that, from corn alone, sold in the grain, or manufactured into sugar, or fed away and sold in meat, every planter will soon make it, as all should do, an invariable rule to pay all his plantation and family expenses."

# Ladies' Department.

## KNITTING.

Exceedingly glad am I to find a gentleman like Solus, taking up, and vindicating so agreeably, the too often ridiculed custom of knitting—either for economy or amusement. It is true, stockings may be bought for less than the cost of the yarn, but they cannot be compared to the knitted ones, either for comfort or durability; and as for amusement, who ever saw a group of genuine knitters, rattling their needles, and casting off all kinds of yarn from their nimble fingers, and heard their pitying comments upon those who could not "turn a heel," or "shape a stocking," without acknowledging, at least tacitly, how pleasant it is to have something pretty or useful produced while they chatted so agreeably, or listened to some clever book; besides displaying a fair dimpled hand to advantage—an unacknowledged benefit. Being a knitter myself, I like his picture of evening fireside comfort extremely, and in the name of the sisterhood, tender our thanks, and good wishes, that he may find a "ladye love," who will take pity on his forlorn condition; consent to occupy the promised "easy chair;" listen with intelligent interest to his book (I hope he reads well), and knit scores of comfortable woollen stockings, snowy white, or "darkly, deeply, beautifully blue," as may best suit his fancy, even should he be six feet high, and garter above the knee! And, lastly, that all this may come about before winter sets in, so that he may not pass another New Year's day Solus.

He "hopes the ladies will not think him enthusiastic;" which tells us plainly as any words can, that his tale is true, and he really is a solitary bachelor, who knows nothing at all about woman's ways. Why, I can let him into a secret, and speak positively too—the pretty creatures love enthusiasm, particularly when they are the objects of it, and therefore I hope they *will* think him enthusiastic.

But if Solus be a smoker, a chewer, or a snuffer, I retract every good wish made in his behalf, and transfer them bodily to some honest man who has too much good taste and sense to destroy his own health and the comfort of his family, by such filthy practices. Some nameless bard has said, with more truth than poetry, I confess, that

> "Tobacco is an Indian weed,
> An evil spirit sowed the seed,
> It wastes our money, spoils our clothes,
> And makes a dust-hole of the nose."

The German ladies certainly do carry their knitting work to the theatre and other places of public amusement, and by doing so, show to a certain degree the value of time; and I have even heard of their taking it to balls, where one would suppose the feet, and not the hands, were most in requisition; and that it is so, the following anecdote seems to prove, though I cannot vouch for the truth of the whole story. It is said that a young German lady who had no objection to displaying her pretty hands when she sat still, as much as she did her equally pretty feet, when she danced, kept her partner waiting until she knit to "the middle of her needle," then, somewhat in a hurry, put her work into the bag, and whirled away in a waltz. But, unfortunately, in putting the stocking in, she pulled the ball of worsted out, and as she flew around, the yarn wrapped itself about her, increasing in thickness and length, until, when the dance was over, she was found to be transformed into a huge ball of blue yarn, with four steel needles sticking through it. Those who were present took it as a warning, and never took knitting work to balls again.

I have acknowledged that I am a knitter upon principle, as well as fancy; and innumerable are the mitts, bags, cushions and children's socks that have fallen from my needles; but—I must confess the fact, that never in my life could I bring myself to travel the never-ending rounds of a man's long stocking. I would rather undertake to read Webster's Dictionary regularly through, from A to Z; or count the grains in a sack of flax-seed. It always seemed like the task imposed by Maester Michel Scot, the famous wizard, upon the evil spirit whom he was bound to keep constantly employed—he ordered him to make ropes out of sea-sand, and he is at it yet!

But while Solus so pleasantly contrives to bribe the ladies to engage in this favored branch of home manufacture, can he, or any other sensible man, tell me why the men should never knit for themselves? I *know* it does not *necessarily* make them effeminate; for two of the roughest specimens of mankind I ever saw knit all their own stockings and mittens, while resting at night, and listening to some one reading aloud.

In the country, where the absence of all exciting amusements creates a blank in minds not deeply imbued with a taste for home-bred joys; or, where the education has been finished when the last school bill was paid; the time which is not devoted to labor must hang heavily on the men and boys of a farmer's family, particularly in the long winter evenings, when the cares and the pleasures of the day are over, and the family congregates around the blazing fire, after the evening meal, to while away the time until the hour for retiring. It is not easy to find employment or amusement in which all may participate; with women there is no difficulty—there is always plenty for them to do, in plying their needles, while listening to conversation, or reading—but the unfortunate men and boys—what are they to do? How few quiet occupations are allowed for their hands, while their heads are engaged by the subjects brought before them. Boys are laughed at and called effeminate, if they partake of their sister's work; yet I have known some, as manly and intelligent fellows as ever guided a plow, or delivered an agricultural address, who were not ashamed to employ an hour occasionally, in knitting stockings, weaving fishing nets, and wicker baskets, as a pleasant change from drawing and carrying in wood.

We are accustomed to look down upon men who sew, or knit, and they would be worthy of contempt if they could do nothing else; but until some good reason can be given for preventing them from doing either, rather than see them sit still, and fix habits of idleness, I would encourage them to do any kind of work that could be turned to use or ornament. What sight can be more melancholy than that of a family of great boys, lounging around the fire, excusing their laziness upon the plea that they "cannot do anything while everybody is talking?"

If any of my country friends think with me upon this subject, I hope they will countenance the expression of such *outré* opinions, by an approving word; and, above all, I pray them to teach their little boys to knit and sew.

Good Mr. Editor, pray, forgive me—I intended to write only a few lines, and I have spun a yarn long enough to knit a pair of stockings for the Irish giant. E. L.

*Eutawah.*

## Boys' Department.

### GOOD TOOLS FOR BOYS AGAIN.

It is plain injustice, I think, that men alone should use good tools. For the reasons that boys are not so strong, are not so patient, not of that skill and knack found among older hands, nor of courage equal to them, boys should share the advantage, —should have access to the same arsenal of money, and equip themselves with equally good arms.

If you wish, my young friends, for your own best good to get the key to unlock this, plead silence to me, I will tell the secret; if you undervalue it when once told, I shall be apt to suspect you are not so very wise. To carry your point as to getting good tools, persuade the man who makes purchases of this sort, that such ones, though more costly, are the best he can buy. Once convinced of this, once led to believe it heartily, to give it the place and rank of a principle, then, whatever his relation to you, he will find means, if he is a man of nerve and judgment, to collect the money, or if he feels too poor at present, will contrive and scheme till his purse swells to the requisite fulness—the sure fruit of persuasion.

Now for the persuading. It must be done, if at all, seasonably and kindly. But how to persuade, how to convince, how to win him over—this is the secret. Deepest and strongest in the natural heart is the principle of self-love—the very mainspring of motion and action—which a skilful hand will touch and sway at pleasure, to which in everything meant to help procure the good tools, no less than in matters of greater weight, you must refer all the while.

Some fine morning, while the dew-pearls shine among the grass, touched with early sunlight, when the mowers with good sharp scythes are in full swing, levelling before them the broad swaths, cut from a smooth sod, when they glide along fast and easy, but when you, just learning to mow, hindered with the old scythe-blade, narrow as a case-knife, hung on an awkward snath, lag behind the hindmost, to hack and mangle the grass as you can best, then is the time to plead for relief. In earnest tone of voice, mention how much you envy their swifter speed, their greater facility to work; you can insinuate, that, with as good a scythe, you could do much more than now, could with equal readiness turn off, for your own share, a larger "stent"—a little bantering and taunting, as if you would, then, drive them to clip faster, and step quicker, for the sake of safety, from your pursuing steel, might as well season the dish. Heart-whole, with a good conscience, you could promise more work. This being money in their pockets, because it would save the wages paid out to hired men, would at once appeal to their self-interest. "A penny saved," says Poor Richard, "is as good as a penny earned." Assured of the certainty that for a larger outlay of money in tools, there will flow in a larger income of valuable work, will not the judicious farmer resolve at once to adopt the habit of buying good tools, in preference to every other? Those who would not, it is safe to say, are "few, and far between," like the visits of angels, though not otherwise like angels. Self-interest fairly in view, and proved to point in this course, leads the disposition many steps on the way.

To lead still farther, suggest, that good tools save time,—requiring rarely to be mended, solid, well-made, fitted for hard usage. This is proved by the very quality of the tools—proved by the opinion of farmers in general—proved by a small glance of consideration—so that I need not explain more at length. Can any farmer have more time than may be well used? Too much time for improving the natural quality of his soil; too much for getting it into good heart; too much for improving his stock, their form, their growth, and their general thrift; too much for improving himself every way? It cannot be.

The time saved from good tools facilitating work, if it is spent in labor either directly on, or else for, the farm, select what part you will, results the next year in a greater value of crops, or stock, so much greater as often to pay heavy interest for the surplus expended in tools—more than this, sometimes so much greater, as within the year to *pay itself* all completely, so that the after use of the tools, however long they last, however useful they are, is well-nigh net gain; besides, with a liberal allowance of time to improve, the farmer will get a circle of willing, industrious, intelligent, steady, smart boys—the best of all produce. So your success in pleading for good tools, my boys, may be helped on if you remember to state the saving of time. Still further, it may help your plan, if you signify what *credit and regard* would be paid, and paid willingly. We all love praise—love a good reputation. Towards the parent, if you happen to know him, who supplies his boys with good working tools, show that you feel a sincere respect—let it be seen at home that you look on him as ready to benefit and to please, generous, praiseworthy, and kind. To express these feelings, though, in a tone to provoke, to insult, to hurt friendly feelings, which cannot do so well as they would, is both wicked and needless. . . . . Readers of mine, help on the reform, one and all, each in his own sphere. Till I see you again, let me wish you good weather, and good-bye. Lent.

### Five Maxims to be observed through Life.

1. Never regret what is irretrievably lost.
2. Never believe that which seems improbable.
3. Never expose your disappointment to the world.
4. Never complain of being ill-used.
5. Always speak well of your friends, but of your enemies, speak neither good nor evil.

## FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamer Cambria, we are in receipt of our foreign journals up to July 4th.

Markets.—*Ashes*, Pots were in fair demand; *Pearls* dull of sale. *Cotton* rather looking up from the late slight depression. Stock on hand in Liverpool on the 1st of July, 757,000 bales against 1,038,000 same period last year. *Flour* and *Meal* dull at a decline. *Beef* and *Pork* a slight reduction in price. *Lard* without change. *Cheese*, the finer qualities much wanted. *Naval Stores* steady. *Rice* in good request. *Tobacco* no alteration. *Wool* had fallen 2d. per lb.

*Money* was plenty without change in the rates of discount.

*The Weather* was unusually fine, and considered highly favorable for an abundant harvest.

*Passage of the Corn Bill.*—This is one of the most important acts, as regards the United States, that has ever passed the British Parliament. It admits pork, beef, flour, and grain, nominally free, and will be the means of taking off annually a large surplus of our agricultural products; and what is of more importance, it will have the effect of binding for all time, two great nations closer and closer together in the arms of friendship. America and Great Britain are the same in language, and essentially the same in blood, and we trust now that the Oregon question is settled, nothing will ever arise to disturb the harmony of an intimate and greatly extended intercourse between them.

*To Destroy the Wheat Fly.*—Take Orpiment (which can be procured at any druggist's), and, with lighted charcoal, burn the orpiment close to the wheat, any time after sunset, and before sunrise, at the time when the plant commences to flower—it should be repeated while the fly is found to exist. One ounce is sufficient for six acres.

*Another, and perhaps equally efficacious Remedy.*—So soon as the fly is discovered, or so soon as the plant shows a disposition to open its flowerets, carry around the patch of wheat strong lights at night, and the darker the better—the flies will all rush to the fires and destroy themselves.

*Both* the above have been successfully tried in Canada, and no farmer should run the risk of losing his wheat when it can be saved at so little cost and trouble.—*Quebec Gazette.*

*Summer Pruning.*—Standard apple, pear, plum, and cherry trees, require particular attention in regard to pruning, for several years after they are planted, otherwise their tops will get into confusion. Pruning, therefore, is essential in the first instance, even if you should find it impossible to regulate them every year after they get large. Having tied in every shoot of your pear and plum trees, and converted each branch into a sort of besom, you must forthwith loosen them; for you will find that much of the foliage is in the way of being blanched, and from such no good will result. Thin out the shoots that have been most shaded, and gradually shorten the other forerights till the spur-leaves at their bases are duly exposed to the light; but take care not to do this all at once. It is now a good time to shorten the shoots of dwarf standards. One-fourth of their length may be cut off. Shoots are useless, or worse than that, if their foliage cannot be well exposed to the light.—*Gard. Chron.*

*The Horse-charmer.*—Doubtless, our readers must have heard of the extraordinary gift said to be possessed by an Irishman named Sullivan, who exercised a power over horses that no other horse-breaker in the United Kingdom ever obtained, by means of whispering. He is, therefore, better known in the sporting circles by the sobriquet of "the whisperer." It may not be known that the grandson of this extraordinary man (George Church), who practises the art of horse-breaking and training in Sidney, possesses the secret of charming this noble animal which gained for his grandsire so much celebrity. We have had frequent opportunities lately of witnessing his performances, and can confidently vouch for his skill. He will take a wild unbroken colt from the bush, and in 24 hours make him so docile and obedient, without severe treatment, that the animal, at command, will lie down under him, feigning death, and remain until roused from the apparent stupor in which he has been thrown, by mesmeric passes and slight manipulation (as it appears to us) on the nervous system, by the slight touch of a rattan. The animal will then lick the face of the operator, put his tongue in his mouth, and whisper in his ear at a signal. Church will then lie down on the broad of his back, and place the animal's fore-foot on the pit of his stomach, also his hind-foot in his teeth, without danger of being pressed too hard. When the horse is relieved from the stupor in which he appears to have been thrown, he resists a repetition of the operation as long as he can, until subdued by the irresistible charm of this extraordinary man, he relapses into the mesmeric state, and is then passively obedient to his will.—*Ibid.*

*How to Kill Rats.*—A good mode of destroying rats and mice is to cut old corks in slices as thin as wafers, and to fry them in the frying-pan after it has been used for frying any meat, but not burnt; place them about where the vermin appear, and all will be destroyed, for they eat them voraciously.—*Ibid.*

*Supply of Indian Meal at Cork.*—Such is and has been the extensive demand for this article throughout Ireland since the price was fixed at £10 per ton, that there have been issued from the government depôt at the Lee Mills, in this city, one thousand tons per week to the several relief committees who receive supplies; that is, ten thousand pounds worth of Indian meal per week is issued from Cork alone, to make up for the deficiency caused by the failure in last year's potato crop, independently of the amount sold by importers, on private account, which, however, we have no opportunity at present of ascertaining, but which, we are assured, must be very considerable. A cargo of yellow meal, in prime condition, was last week offered to the relief committee at 30s. per quarter, or about £8 per ton, and from the extensive importations that have taken place, and the prospects of an early and abundant harvest, and the reduction in price of other bread stuffs, the price is expected to fall still lower.—*European Times.*

*Concentrated Extract of Malt and Hops.*—Few modern inventions are likely to prove a greater source of public benefit than this important patented article, which is now being extensively manufactured in London by a company established solely for that purpose. It is a thick, straw-colored, saccharine essence, and has only to be dissolved in hot-water, and fermented, to afford a fine home-brewed ale All the inconvenience, waste, loss of time, and uncertainty, attending the old method, when using the malt directly, for family brewing, is entirely avoided. By this compact and cleanly process, one or more butts of beer may be got ready for fermentation within half an hour. Those who know the medicinal virtues of malt and hops will, no doubt, avail themselves of this efficient means of obtaining a glass of fresh wort at pleasure; it is well said, that brewers are their own doctors, such is the efficacy of sweet wort to invigorate a declining constitution.—*Ibid.*

*Watering.*—If you can loosen the surface of the ground and soak it with water in the evening, the garden will be much benefited, but a slight sprinkling is of little service; the reason why gardeners object to watering in hot weather, is that the ground is apt to become baked; but a very little skill might remedy that inconvenience.

# Editor's Table.

The American Herd Book.—By Lewis F. Allen. Owing to the late hour at which it came to hand, we had no other space left in our last than an advertising column, to notice this highly valuable pioneer work. As the author of it is a relative of ours, we shall leave it to others to speak of it as it more fully deserves. We made a mistake in our last, in stating that it contained the pedigrees of only 130 bulls and 240 cows; whereas, it records 200 of the former, and upwards of 400 of the latter. For various reasons, which we think absurd enough, a considerable number of breeders neglected to forward their pedigrees for publication. Several of them already regret their omission, and promise to furnish them for insertion in a second volume, which we have no doubt will soon be called for. A limited edition of the Herd Book has been issued; those in want of it, therefore, cannot be a moment too soon in applying for copies—a short time hence and it may be too late.

History of American Cattle.—With numerous engravings. By Lewis F. Allen. This work is entirely distinct from the Herd Book, and is designed to take the same place in America as Youatt's British Cattle does in England. This is nearly ready for the press, and will soon appear.

A Brief Compend of American Husbandry.—By Richard L. Allen. This work is designed as a manual for the Farmer and Planter. It is of the same size as the American edition of Stable Economy, and will be published this month. We think, when out, that it will prove the best work on American Agriculture yet issued from the press. But we shall not attempt to praise it in advance. Those who have read the excellent articles contributed by Mr. R. L. Allen, for this journal, can judge whether he is sufficiently qualified for the task that he has imposed upon himself, to write a brief compend of American Husbandry.

Transactions of the New York State Ag. Society.—We have at length been favored with a copy of this work. It is a goodly volume of 527 octavo pages, and, judging from a cursory perusal, it comes nearer what it should be than any of its predecessors. But first we would ask why does it *borrow* its frontispiece? Is it done to advertise other papers, or why is it put there? We hold that *the* Transactions should be *bonâ fide the transactions* of the State Society, and not extracts and revamped matter, set off with show pictures from any preceding publication whatever. There has been enough of this already. The cuts of the Show Ground at Utica are pretty and appropriate, giving an attractive idea of the same. We are happy to say that these are NOT BORROWED. We hope similar ones will grace every volume. Mr. Quincy's address should have first appeared here, and not been previously published in pamphlet form for the benefit of some particular printer. Of the reports, we like those best *which are the briefest.* We can conceive of those on Swine and Poultry as funny enough to be read on the occasion; but not sufficiently dignified to bind up in a volume to be sent out to Europe and elsewhere, as the Transactions of the New York State Ag. Society. We find no such things in the Transactions of the English or Highland Ag. Societies. What the public expect in such volumes is valuable FRESH matter, in as simple and condensed a form as possible, for the sole benefit of the plain matter-of-fact farmer. Reports of farms we were much interested in, and hope the Society another year will give prizes on the agriculture and improvements of counties. The article on the Wheat Fly, however valuable it may be, should have been rejected, for the simple reason that nearly all of it had previously appeared in another journal. It is a rule with European Societies to reject all such matters as have been *previously* published, otherwise they might print ten thousand volumes a year, and call them *their* "Transactions." The question arises, is this matter *bonâ fide the transactions* of the State, or County Societies? Yes; then print it. No; then reject it. We should be glad to speak of other parts of the volume under review, but have not space to do so now. The Treasurer's Report shows $2,000 belonging to the Society, invested on bond and mortgage, and a cash balance on hand besides, of $546.21.

Voyages of Discovery and Research within the Arctic Regions.—By Sir John Barrow. With Maps. Pp. 359, 12mo. Price 50 cents. Harper & Brothers, 82 Cliff Street. This is another of those no less beautiful, than highly valuable, pocket volumes, such as we described in our May No., in noticing the "Journey to Ararat," that the Messrs. Harper are issuing from their teeming press. The present volume under notice, may be properly called a continuation of one by the same author, published some time since, giving an account of the discoveries and exploits of the old mariners in the days of the Cabotas. This commences with the voyage of Captain Buchan in 1818, and ends with the discoveries of Mr. Simpson in 1839. It is a delicate task to abridge a number of large octavos to a moderate-sized duodecimo; but in this we think Sir John has eminently succeeded, preserving all that the public generally would care to know of the Arctic Regions. The perilous incidents and adventures of the several voyagers, are, in most instances throughout the narrative, given in the original words of the writers of the journals, which we think altogether better than for the author to have remodelled them in his own style.

European Agriculture.—By Henry Colman. We are in receipt of Part VI. of this publication, and are glad to find the author leaves speculative and extraneous subjects to take care of themselves, throughout the number, and confines himself to practical matters of value. Paring and burning, draining, ditching, and warping, are the principal subjects of this number, all of which Mr. Colman has treated in a brief and clear manner.

The Horticulturist, and Journal of Rural Art and Rural Taste. Edited by A. J. Downing. Published by Luther Tucker, Albany, N. Y. A monthly publication of 48 pages, octavo. Price $3 a year. This work is beautifully embellished with numerous wood cuts, and is got up throughout in a style that would do credit to European publications. The editor has been long and favorably known as the author of "Landscape Gardening," the "Fruits and Fruit Trees of America," &c.; and after saying thus much, we need add nothing more to show that he is eminently qualified for the task he has undertaken. The articles in this number are pertinent, varied, and racy. A succession of such will make this journal deservedly popular. A work of this elegant order has long been wanted in the United States. We welcome Mr. Downing among the editorial corps, and wish him all success in his arduous undertaking.

The New England Farmer.—We deeply regret to learn, that this old and favorite work was discontinued on the 22d of June last. It had completed its 24th volume, the publication having been commenced in 1822. Its familiar face and instructive pages will be sadly missed by its friends. We trust its proprietors, Messrs. Breck & Co., will ever find other objects on which to bestow their attention, which may contribute to their wealth and happiness. We presume the increase of their mercantile business, leaving them little leisure to attend to editorial duties, was one cause of their discontinuing the Farmer.

Report of the Commissioner of Patents for the Year 1845.—We have received this annual Document, and find it more voluminous than any of its predecessors—containing 1,376 octavo pages. Although forty-eight new patents have been granted the past year, for things relating to agriculture, the Commissioner adds that little of novelty has presented itself in them. The Patent Report, of itself, usually makes but a small pamphlet. Out of the 1,376 pages lying before us, only 89 are found necessary for this purpose. It has been the practice, however, for the past few years, to add a quantity of other matter to it, on the subject of agriculture and the agricultural resources and statistics of the United States. So long as the articles added were ORIGINAL communications to the Commissioner, and *not before published*, and were pertinent to the subject, and not too prolix, this was proper enough; but like too many things in this world, this report has sadly degenerated, and instead of the racy articles which made up the first one of this kind, we have a republication copied from the agricultural journals of the day, of a mass of matter, much of which is the crudest stuff we ever saw put into print—a disgrace to the papers where they originated, and a quadruple disgrace to the Document which has copied them. To point out these matters would require more space than we can devote to them; we therefore forbear, trusting that another year will show a great reform. We like to see agricultural information of a proper kind, furnished by the government to the people, and have no doubt of its being a legitimate object; but it is most unfair to plunder the agricultural journals in this way, and bring Uncle Sam into market as a competitor, with *cabbaged* goods. The expense of this document to the government, is enormous. One of the Senators in Congress, states it to be $114,000, out of which the printers, Messrs. Heiss & Ritchie, clear a net profit of $57,000!!! Though legalized by Congress, this is nothing less than a shameful and outrageous plundering of the people of the United States, and ought not to be tolerated any longer by the National Legislature. We perceive that the attention of members of Congress has lately become aroused to the flagrant waste of money in the public printing, and if this document has the effect of assisting to promote a reform, then its issue will at least have had one good effect upon the community. If the farmers would look closer to their servants at Washington, we should have no complaints to make in these matters; but they, good easy souls, seem to think little of what becomes of their hard earnings—the people's treasure—but go on, and sweat away, leaving the favored few to grow rich at their expense, while they themselves contrive to keep as ignorant as possible of their doings. In all future reports, we trust the Commissioner will be allowed to employ first-rate scientific and practical men, to assist in making them up.

Connection of the Physical Sciences.—By Mary Somerville. Pp. 433. Price 50 cents. Harper & Brothers. Would that we could persuade that numerous class of ladies who spend so much of their precious time over exciting romances, to take up this work, written by one of the best of their own sex, and study it with the devotion it deserves. How it would ennoble their minds. What beauty, what wisdom, what goodness, it would teach them. It ranks high with European scholars, and we are not without our hopes that it may take the same stand with American.

The Sportsman's Library; or Hints on the Hunter, Hunting, Hounds, Shooting, Game, Sporting, Dogs, Fishing, &c. By John Mills. Pp. 341. Price $1. Lea & Blanchard. The author of this work has devoted nearly his whole life to the study and practice of the subjects of which he treats. This has enabled him to write a very original book, and principally from his own practical knowledge. One may consequently take it up with confidence, relying on the justness and soundness of his observations and directions in all sporting matters.

Napoleon and his Marshals.—By J. T. Headley. In two volumes. Price $1.25 each. Baker & Scribner, 145 Nassau Street. The object of the author in writing this work, is declared to be, to correct the erroneous impressions that prevail respecting Napoleon, and to group together some of the most striking events of that dramatic period when he was marching his victorious armies over Europe. Being gifted with a fervent imagination, Mr. Headley in doing this, we think, has gone to the other extreme, and given us all the romance of war without its accompanying horrors and crimes. His style is brilliant and poetic; and whatever may be thought of his views of the subjects of his work, and his manner of treating them, the result is, that he has doubtless made a highly popular and readable book. We understand that upwards of 4,000 copies are already sold, and that the work has gone to a fifth edition.

Miss Beecher's Domestic Receipt Book.—Designed as a Supplement to her Treatise on Domestic Economy. Pp. 293. Price 75 cents. Harper & Brothers. Miss Beecher says that she has aimed at the following objects in this work. *First*, to furnish an original collection of receipts which shall embrace a great variety of simple and well-cooked dishes, designed for every-day comfort and enjoyment. *Second*, to include in the collection only such receipts as have been tested by superior housekeepers, and warranted to be the best. *Third*, to express every receipt in language which is short, simple, and perspicuous. *Fourth*, to furnish such directions in regard to small dinner-parties and evening company as will enable any young housekeeper to perform her part, on such occasions, with ease, comfort, success, &c., &c. A fair friend at our elbow, one who at least ought to know, declares that Miss B. has carried out her designs well in this book, and that it is the very best work of the kind for American housewives, within her knowledge. Having little experience in household matters ourselves, we bow with deference to the above opinion, assuring our readers that they may depend upon it as likely to be more correct than anything we can give them.

A Complete System of Book-keeping.—Simplified and adapted to the use of Farmers. Embracing a Set of Forms of Accounts for all the principal branches of business of the Farm. Compiled, arranged, and prepared, by T. C. Peters. Price $1. The author of this valuable work is himself a practical farmer, and knows well what is wanted for his brethren of the same occupation. We have seen nothing of the kind equal to this in its arrangement; and a single copy may last a large farmer for years, and enable him to keep his accounts with great ease and accuracy.

Importation of Cattle.—A Short-Horn cow from the herd of Mr. Bates, of Yorkshire, England, arrived here in the packet ship New York, on the 13th ult. She is a light roan color, of fine form, and a great milker. Another cow from the same herd is to follow soon.

A Delightful Country Residence.—By reference to the advertisement of Messrs. Cook & Smith, it will be seen that the late residence and grounds of Mr. Shaw, at Astoria, are for sale. It is one of the most delightful we know of, enclosed by masses of the most beautiful hornbeam and evergreen hedges which we have seen in America. Indeed, they would do credit to England. The garden is very fine, and abounds with a profusion of the choicest kinds of fruit. The house and outbuildings are pretty and convenient.

## REVIEW OF THE MARKET.

### PRICES CURRENT IN NEW YORK, JULY 20, 1846.

| | | | | |
|---|---|---|---|---|
| ASHES, Pots, | per 100 lbs. | $3 50 | to | $3 56 |
| Pearls, | do. | 4 06 | “ | 4 12 |
| BALE ROPE, | lb. | 5 | “ | 7 |
| BARK, Quercitron, | ton, | 22 00 | “ | 24 00 |
| BEANS, White, | bush. | 1 12 | “ | 1 25 |
| BEESWAX, Am. Yellow, | lb. | 26 | “ | 30 |
| BOLT ROPE, | do. | 12 | “ | 13 |
| BONES, ground, | bush. | 40 | “ | 55 |
| BRISTLES, American, | lb. | 25 | “ | 65 |
| BUTTER, Table, | do. | 16 | “ | 25 |
| Shipping, | do. | 9 | “ | 13 |
| CANDLES, Mould, Tallow, | do. | 9 | “ | 11 |
| Sperm, | do. | 25 | “ | 38 |
| Stearic, | do. | 20 | “ | 25 |
| CHEESE, | do. | 6 | “ | 10 |
| COAL, Anthracite, | 2000 lbs. | 5 00 | “ | 6 00 |
| CORDAGE, American, | lb. | 11 | “ | 12 |
| COTTON, | do. | 6 | “ | 11 |
| COTTON BAGGING, Amer. hemp, | yard, | 13 | “ | 14 |
| Kentucky, | do. | 12 | “ | 13 |
| FEATHERS, | lb. | 25 | “ | 34 |
| FLAX, American, | do. | 8 | “ | 9 |
| FLOUR, Northern and Western, | bbl. | 3 87 | “ | 4 12 |
| Fancy, | do. | 4 50 | “ | 5 00 |
| Southern, | do. | 3 50 | “ | 4 12 |
| Richmond City Mills, | do. | 5 75 | “ | 6 00 |
| Rye, | do. | 2 60 | “ | 2 75 |
| GRAIN—Wheat, Western, | bush. | 90 | “ | 1 00 |
| Southern | do | 80 | “ | 90 |
| Rye, | do. | 68 | “ | 70 |
| Corn, Northern, | do. | 55 | “ | 60 |
| Southern, | do. | 50 | “ | 53 |
| Barley, | do. | 58 | “ | 60 |
| Oats, Northern, | do. | 34 | “ | 35 |
| Southern, | do. | 26 | “ | 28 |
| GUANO, | do. | 2 00 | “ | 3 00 |
| HAY, in bales, | 100 lbs. | 45 | “ | 55 |
| HEMP, Russia, clean, | ton. | 215 00 | “ | 225 00 |
| American, water-rotted, | do. | 105 00 | “ | 185 00 |
| American, dew-rotted, | do. | 75 00 | “ | 125 00 |
| HIDES, Dry Southern, | do. | 7 | “ | 8½ |
| HOPS, | lb. | 18 | “ | 25 |
| HORNS, | 100. | 1 00 | “ | 7 00 |
| LEAD, pig, | do. | 4 00 | “ | 4 12 |
| Sheet and bar, | lb. | 4 | “ | 5 |
| MEAL, Corn, | bbl. | 2 62 | “ | 3 00 |
| Corn, | hhd. | 15 00 | “ | 16 50 |
| MOLASSES, New Orleans, | gal. | 28 | “ | 31 |
| MUSTARD, American, | lb. | 16 | “ | 31 |
| NAVAL STORES—Tar, | bbl. | 1 62 | “ | 1 87 |
| Pitch, | do | 1 00 | “ | 1 06 |
| Rosin, | do. | 50 | “ | 60 |
| Turpentine, | do. | 3 50 | “ | 4 00 |
| Spirits Turpentine, Southern, | gal. | 28 | “ | 31 |
| OIL, Linseed, American, | do. | 60 | “ | 62 |
| Castor, | do. | 60 | “ | 73 |
| Lard, | do. | 60 | “ | 65 |
| OIL CAKE, | 100 lbs. | 1 25 | “ | 1 50 |
| PEAS, Field, | bush. | 1 25 | “ | 1 59 |
| PLASTER OF PARIS, | ton. | 2 38 | “ | 3 00 |
| Ground, in bbls., | of 300 lbs. | 1 12 | “ | 1 25 |
| PROVISIONS—Beef, Mess, | bbl. | 6 50 | “ | 9 00 |
| Prime, | do. | 4 50 | “ | 5 50 |
| Smoked, | lb. | 6 | “ | 9 |
| Rounds, in pickle, | do. | 4 | “ | 6 |
| Pork, Mess, | bbl. | 9 50 | “ | 12 00 |
| Prime, | do. | 7 88 | “ | 9 00 |
| Lard, | lb. | 5½ | “ | 7 |
| Bacon sides, Smoked, | do. | 3 | “ | 4 |
| In pickle, | do. | 3 | “ | 4 |
| Hams, Smoked, | do. | 6 | “ | 10 |
| Pickled, | do. | 4 | “ | 7 |
| Shoulders, Smoked, | do. | 5 | “ | 6 |
| Pickled, | do. | 4½ | “ | 5 |
| RICE, | 100 lbs. | 2 88 | “ | 3 75 |
| SALT, | sack, | 1 35 | “ | 1 45 |
| Common, | bush. | 20 | “ | 35 |
| SEEDS—Clover, | lb. | 6½ | “ | 9 |
| Timothy, | 7 bush. | 10 00 | “ | 16 00 |
| Flax, clean, | do. | 10 00 | “ | 11 00 |
| rough, | do. | 9 00 | “ | 10 00 |
| SODA, Ash, cont'g 80 per cent. soda, | lb. | 3 | “ | 3 |
| Sulphate Soda, ground, | do. | 1 | “ | — |
| SUGAR, New Orleans, | do. | 5 | “ | 7½ |
| SUMAC, American, | ton, | 35 00 | “ | 37 50 |
| TALLOW, | lb. | 6½ | “ | 7½ |
| TOBACCO, | do. | 2 | “ | 2½ |
| WHISKEY, American, | gal. | 19 | “ | 21 |
| WOOLS, Saxony, | lb. | 35 | “ | 54 |
| Merino., | do. | 25 | “ | 30 |
| Half blood, | do. | 20 | “ | 25 |
| Common do | | 18 | “ | 20 |

REMARKS.—*Ashes* steady. *Cotton* in fair demand for export. *Flour* firm. *Meal* dull. *Grain* selling freely. *Molasses* considerable inquiry. *Tar* and *Rosin* scarce. *Provisions* unsettled and dull. *Sugar* has slightly declined. *Tallow* little in market. *Tobacco* dull. *Wool* the same.

*Money* is abundant for all business purposes.

*Stocks* have undergone a slight improvement.

*The Weather* has been most extraordinary: cold rains succeeded by an excessively hot sun, giving us greater extremes of heat, cold, and wet, than we have any recollection of ever before experiencing. The crops have consequently suffered somewhat; but, on the whole, are tolerably well secured, and promise thus far much more than an average.

ACKNOWLEDGMENTS.—The Premium List of the New Haven, Conn., Cattle Show, Agricultural and Horticultural Fair, to be held on the 1st of October, at Birmingham, Derby, Ct.; Same of the New Haven Horticultural Show, which takes place at New Haven, Ct., on the 22d of September, continuing three days; Same of the Fairfield Co. Ag. Society Show, which takes place at Bridgeport, Ct., Oct. 14 and 15. The Charter, Constitution, and By-laws, of the Cincinnati Horticultural Society, with a Report of its Transactions for 1843, '4, and '5; Abstract from the returns of Agricultural Societies in Mass.; and Annual Report of the American Institute for 1845; Introductory Lecture delivered at the opening of the first Academical year of the Orange Co. Scientific and Practical Agricultural Institute, May 20, 1846, by A. J. Darrach; Report of the Exhibition of the Buffalo Horticultural Society.

TO CORRESPONDENTS.—M. W. Philips, T. C. Peters, An Old Pennsylvanian Farmer, C. N. Bement, James S. Peacock, Geo. Vail, A. R. D., Wm. J. Jones, and H. C. Smith.

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The Subscriber has been so often requested to add Garden Seeds to his assortment of Field Seeds, that he has at length consented to do so, and now offers for sale a great variety, grown by responsible persons, and put up expressly for him. They are fresh, and he confidently thinks may be relied upon.

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The Subscribers offer for sale, on very accommodating terms, the balance of the ship Shakspeare's cargo, the only direct importation into this port from Ichaboe. Much guano from other parts of Africa has been sold as Ichaboe, which on trial has produced unfavorable results. To prevent the loss of ammonia, this cargo has been put in air-tight casks. Apply to

Feb. 6, 1846. E. K. COLLINS & CO., 56 South St.

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The Lodi Manufacturing Company offer Poudrette for sale at the following prices. At the Factory on the Hackensack River, 4 miles from New York in bulk, 35 cents per bushel, and $1.63 cts. per barrel. Delivered in New York from 1 to 6 bbls., $2 00 per bbl.; 7 bbls. and over, $1.75 per bbl. Apply to the office of the Company, 51 Liberty Street, or to A. B. Allen, 187 Water Street, where printed directions and other information may be obtained.

## PRINCE'S LINNÆAN BOTANIC GARDEN,

*Flushing, Long Island, N. Y.*

List of Plants, Flowers, &c., exhibited at the First Semi-Annual Exhibition of the Long Island Horticultural Society, at Flushing, on the 11th and 12th of June, 1846, from the Linnæan Botanic Gardens and Nurseries of Wm. R. Prince & Co. The most of the Roses were exhibited in frames for display, without being offered for premiums.

### ROSES.

ROSES—Bengal.—Cypres, Cels Multiflora, Darius, Jacksonia, Louis Philippe, Madame Fries Morel, Philippe, La Superbe, Furtado, Perfection.

ROSES—Tea Scented.—Arch Dutchess Therese Isabelle, Bougere, Dremont, Josephine Malton, Moiré, Nitida, Saffrano, Silene, American White, Fleur de Cypres, La Desiré, Barbot, Common Blush.

ROSES—Bourbon.—Abbé Plantier, Amenaide, Acidalie, Augustine Lelieur, Bosanquet, Bouquet de Flore, Gloire de Rosamanes, Henri Plantier, Julie de Loynes, Madame Breon, Thiaffait, Madame Desprès, Madame Newman, Paul Joseph, Reine du Congress, Comice de Seine and Marne, Madame Margat, Newman, Marginate.

ROSES—Noisette.—Lamarque, Miss Glegg, Madame Guerin, Nykemene.

ROSES—Perpetual.—Antinous, Du Roi panaché, Darius, Ebène, La Reine, Globe, Marie Denise, Palmyre, Ponctuée.

ROSES—Hyb. Perpetual.—Clementine Duval, Aubernon, Comte de Paris, Madame Laffay, Prince Albert, Queen Victoria, River's (Laffay), Gloire de Guerin, James Watt, Lady Fordwick, Augustine Mouchelet, La Bouquetiere, Isaure La Blaie, Emma Dampierre, Mrs. Elliott, L. Peel, Minerva, Duc d' Enghien, Lady Seymour, Aricie, Requien, Dutchess de Montmorency, Du Roi, long peduncle, St. Fiacre, Strié, Helene Maret, Torrida, Leop. de Boeuf, Comtesse Duchatel, Docteur Marx, Dutchess de Nemours, Dutchess de Sutherland, Julie Dupont, Lady Alice Peel, Lane, Marquis de Bocella.

ROSES—Hyb. Chinese.—La Nubienne, Madame Plantier, Ne Plus Ultra, Pallagi panaché, Sextus Pompinius, Triomphe d' Angers, Vandaels, Velour Episcopal, Violet de Belgique, Watt's Celestial, Belle Feronnière, Poilpré, Sanspareil, Parigot, Duke of Sussex, Anzou, Assuerus, Brennus, Chatelaine, Comte Coutard, De Chenedolé, De Laage, Duke of Devonshire, Fabvier, Flora McIvor, George the IV., La Grandeur, Louis Le Roi, Beranger, Vibert, Boullote, Limulienne, Fimbriata.

ROSES—Hyb. Bourbon.—Celine, Coupe d'Hebé, Elise Mercoeur, Henri Barbet, Hortense Le Roy, La Dauphine, Le Gouvé, Majestueux, A Petales Mucroné, Strié, Belle de St. Cyr, Paul Perras.

ROSES—Fairy.—Roseate.

ROSES—Multiflora.—Laure Davoust, Russelliana or Cottage.

ROSES—Hyb. Climbing.—Plantier, Triomphe de Bollvyller.

ROSES—Ayrshire.—Ayrshire Queen.

ROSES—Moss.—Common Red, Crested, Crimson, Incarnate, Louise Colet, Luxembourg Crimson, Pompone feu, Princess Royal, Sage Leaved, Scarlet De la Fleche, White Bath, White French, White Perpetual, D' Orleans, A feuille luisante, Angelique Quetier, Charlotte de Sor, Laucel, Celina, Panaché double, Rouge, Rose-foncé, Eclatante, Mrs. Wood, Pompon feu, Unique de Provence, Malvina, French Crimson, A gros fruit, Feuilles Agathe, Charles, Pale Violet, Vilmorin, Variegated.

ROSES—Alba.—Felicité Parmentier, New Blush Hip, Old White, Sophie de Bavière, Pompone Carnéa.

ROSES—Provence.—Odette de Champdivers, Snow Ball, Royal Cabbage, Blush, Frelatte, Unique.

ROSES—Dwarf Prov.—Rose de Juno.

ROSES—Variegated Prov.—L'Hopital, Cosimo Ridolphi, Comte de Murinais, Tibulle, Agamede, Belle Esquermoise, Belle Hermine No. 6, Belle Hermine No. 7, Insigne Destekls, Pluton, Imperiale, Berièze, Marjolin pourpre, Sœur Vincent.

ROSES—Hybrid Provence.—Belle Sylvain, Blanche Fleur, Christine de Pisan, Donna Sol, Feu brillant, Lee, Zetelle, Madame Huet, Glory of France.

ROSES—Gallica.—Leon the 10th, Arlequin, Fanny Parisot, Fontenelle, La Muskowa, New Village Maid, Panaché semi-double, Stella, Tricolor No. 1, Tricolor No. 2, Village Maid, The Prince, La Belle Marié, Antonine d'Ormois, Vidua, Aurelie La Mare, Boula de Nauteuil, Crivalis, Roi de Prusse, Dutchess of Buccleugh, Heureuse Surprise, William Tell, Mignon bicolor.

ROSES—Damask.—Monstrueux.

ROSES—Centifolia.—Al. Blanchard, Oielet.

ROSES—Black.—Adelaide, Black Merice, Champion, Cramoisie enflammé, Gloriosa Superba, Imperiale, Iris Noir, La Belle Africaine, La Cherie, La Negresse, Le Seigneur d' Artzelaine, Negro, Negro panaché, Pluto, Proserpine, Rebecca, Regina Nigrorum, Tuscany, Venustus.

ROSES—Summer.—Belle Elise, Bright Crimson, Dark Marbled, Diadème Superbe, Garnier Pages, Grand Alexandre, Grand Duc, Grand Monstreuse, Jacqueline panaché, L' Aimable d'Stors, Ornement de paradle, Paragon, Petite Blush, Purple Velvet, Striking Red, Transparent, Victoire Bizarre, Volidatum, Agremont.

ROSES—Sweet Briars.—Double Margined Hip, Riego, White American.

ROSES—Aust. Yellow.—Harrison's double yellow.

Flowering Plants and Shrubs.—Kalmia Latifolia alba, Magnolia Macrophylla, Magnolia Gracilis, Deutzia Scobra, Cypripedium Spectabile, Spiræa filipendula pleno, Geranium pratense pleno, Campanula persicifolia alba pleno, Campanula persicifolia cerulea maxima, Lychnis dioica pleno alba, Hetteya Japonica, Bignonia Crucigera, New Honey Suckle from Oregon, Iris of fifteen varieties.

Pæonies.—Humei, Whitleyi, Fragrans pleno, Reevesii, Speciosa bicolor, Violacea, Albiflora fragrans pleno.

Green-House Plants.—Aloe albaspina, Thunbergia Elata, Hydrangea Japonica, Pittosporum revolutum, Gardenia florida, Gloxinia Caulescens.

Fuchsias.—Paragon, Maria, Venus Victrix, Kentish Hero, Marginate, Victory Superb.

Strawberries.—Garnestone Scarlet, Large Flat Hautbois, Prince Albert, Prince's New Pine, Black Roseberry, Downton, Prince's Prince Albert Seedling, Crimson Cone, British Queen, Hovey's Seedling, Boston Pine, Royal Scarlet, Prince's New Early Seedling, Victoria, Aberdeen or Dundee, Princess Alice Maude, Ross Phoenix, Myatt's Eliza, Deptford Pine, English White Wood, Prolific Hautbois, Hudson's Bay, Bishop's Orange, Royal Scarlet, Methven Scarlet, Georgian Scarlet.

Rhubarb.—Leviathan, Victoria, Dalley's New Scarlet Giant, Early Tobolsk, Giant or Goliah, Wilmot's Early Red.

### Roses exhibited by William R. Prince & Co., June 25th, 1846.

China.—Archduke Charles, Tancrede, Abelard, Miranda, Darius, Mioland, Reine des Belges, La Superbe, Le Camoens, Jeune Arcole, Caroline de Berri, Hermine, Joseph Deschiens, Roi de Hollande, Menes, Vilmorin.

Tea.—White, Le Pactole, Floralie, Therese Isabelle, Moiré, Madame Roussel, Comte de Paris, Abricoté, Mirabile, Desiré Roussel, Arrance de Navarro, Belle Margueritte, Belle Favorite, Perfection, Marechal Bugeaud.

Bourbon.—Princesse de Modena, Hennequin, Amenaide, Antinous, Anne Beluze, Gaston de Paneк, Newmani, Abbé Plantier, Don Alvar, Dumont de Courset, Paul Joseph, Farquin, Souvenir de Malmaison, Jobes Desgaches, Madame Souchet, Julie de Loynes, La Gracieuse, Belle Interessante, Striped, Bizarine, Zulema, Madame Aude, Splendens, Crimson Globe.

Noisette.—Vitellina, Aime Vibert, Clara Wendell, Monstreuse, Victoire Daumy, Nykemene, Nemesis, Solfatare, Prince's Superb White, Boulogne.

Perpetual.—Grand Monarque, Requien, Ferox de Guerin, Mogador, Billiard, Amanda Patenotte, White Damask, Du Roi blanche, D'Esquermes, Isaure Lablée, Tougard, Moheleda, Pourpre, Minerva, Josephine Antoinette.

Hybrid Perpetual.—Louis Bonaparte, Duc d'Aumale, Julie Dupont, Madame Laffay, Princesse Helene, Clementine Duval, Dutchess of Sutherland, Prince Albert, Beck, La Reine, Melanie Cornu, David de Angers, Augustine Mouchelet, Marquiso Bocella, Dutchess de Montmorency.

Hybrid Chinese.—Beranger, Duke of Devonshire, Vandaels, Vibert.

Hybrid Bourbon.—Joasine, Victor Hugo, Hortense Leroy.

Hybrid Climbing.—Triumph of Bolwyller.

Hybrid Provence.—Belle Sylvain.

Provence.—Unique White.

Variegated Provence.—Superb Striped Unique, Mecène, Rouget de Lille, Cosimo Ridolphi.

Dwarf Provence —Pompone de la Queue.

Macartney.—Double White, Pink Maria Leonida.

Fairy.—Liliputienne, Roseate.

Boursault.—Amadis, Gracilis.

Multiflora.—Double White.

Moss.—Celina, Blush, Sage leaved, White French, White Perpetual, Louise Colet, Feuille Agathe, Etna, Asepetala, Hardy, Splendens, Orleans, Variegated.

Microphylla.—Rosea.

Variegated Gallica.—Village Maid.

Prairie.—Caradori Allan, Anna Maria, Eva Corinne, Seraphine, Baltimore Belle, Queen of the Prairies, Mrs. Hovey, Fatima, Ranunculiflora, Linnæan Hill Beauty, Triumphant, Pride of Washington; Prince's Gracilis, New Seedling Blush.

Alba.—Felicité Parmentier, New Blush Hip.

Gallica.—Boula de Nanteuil.

Hybrid.—Manetti, Helene Maret.

Damask.—Madame Hardy.

Flowers.—Iris of various species, Large Blue Clematis, Cypripediums, &c.

Strawberries.—Montevideo Pine, monstrous size.

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## PATENT SYRINGES AND GARDEN ENGINES.

Manufactured and improved by M. Pool, and sold at the New York Agricultural Warehouse. Price of Syringes from $4 to $6. Garden Engine from $25 to $30.

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The subscriber has just received a lot of the above Plows, manufactured by B. Meyer, Newark, N. J.

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## PRINCE'S PREMIUM STRAWBERRIES.

Wm. R. Prince & Co., Flushing, having devoted great attention to this fruit, now offer the most celebrated collection existing in America or Europe, embracing all the choicest varieties recommended by the London Hort. Society, and the most estimable of other countries, including several splendid seedlings originated by themselves and others. The sexuality of every variety has been investigated, and such plants and directions will be furnished, as will insure abundant crops. There is no such thing as Strawberries becoming barren when properly managed. They can be transplanted from August to November. Primordian, the finest and most producive early crimson variety, large, profuse bearer, one of our seedlings, and now first offered, $3 per dozen. Large early scarlet $1 per 100. Garnstone scarlet $1 for 25 or $2 per 100. Crimson Pine, large, fine, and prolific, another of our new seedlings, $2 per dozen, and $3 for 25. Crimson Cone, one of the most splendid, large, bright crimson, high flavor, profuse bearer, unrivalled, $3 for 50 and $5 per 100. Prince Albert (true sort), Coul late scarlet, Iowa and Willay, $1 per dozen and $2 for 50. Alice Maude, Deptford Pine, Core's seedling, Boston Pine, and Buist's Prize, $1.50 per dozen. President and Clara Victoria, $3 for 6. Swainstone, Black Roseberry and Victoria, $1 for 25 and $2 per 100. Black Prince, Georgian Scarlet, late, and Bishop's seedling, beautiful and prolific, $1 for 25 and $3 per 100. British Queen, Myatt's Eliza, Myatt's Pine, Elton and Old Pine, all fine flavor but poor bearers, $1 for 25 and $2 to $3 per 100. Hovey's seedling, Bishop's Orange, Ross Phœnix or Keen's seedling, and Roseberry, 50cts. for 25, and $1.50 per 100. Dundee, Hudson's Bay, and Methven, $1 per 100. Royal Scarlet, Old Scarlet, Melon and Downton, moderate bearers, 50cts. for 25, and $1 per 100 Hudson (of Cincinnati) great bearers, $1 for 25, and $2.50 per 100. Prolific, Large flat and Green Hautbois, $2 for 25 and $2 per 100. White and red running Alpine Everbearing, $1 for 50; White and Red Bush do. $1 for 25. Common English Red Wood (erroneously called Stoddard's Washington Alpine) $1 per 100. English White Wood, $1 per 100. Very large quantities at a reduction. Orders not less than $5 (cash enclosed) will meet prompt attention.

N. B. All orders must be sent direct to us, and no plants are from us, unless our printed bill and signature accompany them.

## NEW YORK AGRICULTURAL WAREHOUSE.

Just received a *few* of Bryan's celebrated Premium Fanning Mills, a superior article to any in use. Price from $21 to $28.

Also a large supply of Sinclair's, Thorn's, Stevens', and Hovey's Stalk, Straw, and Hay Cutters. Price from $8 to $30.

Corn Shellers of all patterns, from $7 to $50.

Burr Stone Mills, of various patterns, from 12 to 36 inch stones. Price from $25 to $100.

Improved Horse Powers, Ross's, Warren's, Trimble's, and Taplin's—Also Wheeler's celebrated Railway Power.

Threshers of different patterns, with or without Separators.

Also Corn and Cob Crushers, Corn Shellers, with Mill attached for grinding, a new and good article. Price $12.

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South Hadley Falls, Mass., Aug., 1846. 2t

## THE AMERICAN AGRICULTURIST.

Published Monthly, by Saxton & Miles, 205 Broadway, New York, containing 32 pages, royal octavo.

TERMS—One Dollar per year in advance; three copies for Two Dollars; eight copies for Five Dollars.

When Agricultural Societies order the work for distribution, among the members, the price will be only FIFTY CENTS a year, for the Monthly Numbers, and SEVENTY-FIVE CENTS per copy for bound volumes. It will be expected that these orders come officially, and be signed by the President or Secretary of the Society. The object in putting our periodical at this very low rate is, to benefit the farming community more extensively than it could otherwise be done. We hope, henceforth, to see the Agriculturist in the hands of every Farmer and Planter in the country.

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# AMERICAN AGRICULTURIST.

*Agriculture is the most healthful, the most useful, and the most noble employment of man.*—WASHINGTON.

**VOL. V. NEW YORK, APRIL, 1846. NO. IV.**

A. B. ALLEN, Editor. SAXTON & MILES, Publishers, 205 Broadway.

## VALUE OF THE GRASSES.

THE product of our grass land is not only far beyond that of any other crop in the United States, but is probably greater than all other crops combined, as they are taken from the field. This is not true with certain parts of the Union, as in portions of the South, where cotton, rice, sugar, or other leading articles are cultivated; nor with such as are in the neighborhood of large markets, where fruits and vegetables are in steady demand at high prices. But throughout the States generally, we do not doubt that the aggregate of the production of grass is far beyond that of all other *raw* products combined: for it must be remembered that grain and rice, after harvesting, must be threshed and cleaned at an expense of several cents per bushel; cotton must be carefully picked and cleaned, and then baled; sugar and tobacco must be manufactured before they are ready for market; all of which expenses should first be deducted before placing them on a par with grass, which is always marketable in the field, either by the animals which consume it, or as hay. If we consider farther, that nearly every one of the other products is raised by long-continued, expensive, laborious efforts, both of man and beast, we largely enhance the comparative value of the grasses, as they are thus secured in all their value and importance at a much cheaper rate than other productions. Another and highly important advantage they possess over other crops is, they but slightly impoverish the soil in any instance, while, in many, they tend to its fertilisation; but all other crops exhaust it to a greater or less degree. If these propositions be true, it behooves the farmer to look well after his grass lands. If properly prepared and managed, they are a mine of wealth to him; while, with the generality of farmers, if they be neglected, wo betide his results, for he will secure nothing for his purse, if he even succeeds in providing himself and family with the necessaries of life.

With too many of the farmers, grass lands are either totally neglected, or they receive just enough of attention to rescue them from absolute abandonment. Some farmers never sow an ounce of grass seed on their land; but after first clearing off the original growth of wood, or taking off a crop of grain, they heedlessly abandon it to the growth of such herbage as may spring up from the chance seed of former years' accumulation in the soil; and as this is pretty equally made up of the seeds of grass and weeds, the latter usually usurp their full share of the soil, till such time as the former has the power of assuming that predominance which a kind Providence has given to the useful over the useless or prejudicial products of nature.

Grass-lands, whether intended for meadow or pasture, ought to be prepared with the same caution as fields of grain or vegetables. They should be finely, evenly, and smoothly plowed and harrowed; they should be in high condition as to fertility; all the furrows should be carefully smoothed down and levelled if leechy land, or as carefully cleaned out and kept open for thorough surface draining, if they consist of stiff clay. The seed should be well chosen for plumpness and weight, and entire freedom from any improper mixture; and, lastly, it should be evenly and *most liberally* sown with one, or as many varieties of grass or clover, as is best suited to the soil, or the object proposed. If, from unforeseen causes, as drought or winter killing, or imperfection of seed, any spots should prove bare or imperfectly seeded, the first proper time should be taken for re-seeding it. Cattle should be carefully excluded till the grass has acquired a fine sod, and, in the spring, and sufficiently early in the autumn, to prevent any poaching, by which unsightly holes are made for standing water, and to the total exclusion of all growth of grass. If the herbage at any time becomes thin or deficient, or mosses or weeds encroach upon the useful growth, guano, ashes, plaster, lime, stable-manure, peat, or muck composts should be added to remedy the first, and the usual appliances resorted to for removing the last. Thus managed and grazed by choice breeds of stock, every way well looked after, the farmers generally will find their most profitable returns from grass lands.

## AGRICULTURAL COLLEGES AND SCHOOLS.

*To Legislators throughout the United States*—or rather to their constituents, as the former are merely their servants—their waiting echo.

The establishment of Agricultural Schools and Colleges by our legislative bodies has been repeatedly urged in these columns, but hitherto, like many other important things, without success. Although hopeless of securing any present aid for these most praiseworthy objects, by our National or State Legislatures, we yet deem it incumbent upon us, as conductors of a public journal, whose sole object is the advancement of the agricultural classes, to reiterate and re-urge this question. If we cannot for the present induce any favorable action from those who are delegated to enact laws, we can bring the subject to the attentive consideration of those who select their representatives for this purpose. We thus hope to enlighten public sentiment on this all-important matter; and if *the people* are once awakened to its importance, they will see to it, that their representatives do not long continue to neglect their interests. If they *will not lead* in a measure of such vital consequence to this, the largest interests of the community, they *can be driven* into it when the people have become aroused.

It is somewhat strange, and entirely unaccountable on any other principle than narrowness of views, discreditable to the age, or the utter subserviency of our leading men to the behests of party, that they cannot take this single step in advance of the practice of past ages, and assume the responsibility of maturing and carrying out a measure fraught with so much benefit to the country at large, as would result from the establishment of one or more institutions, which will bring to the minds of adults as well as youth, the great principles and the most approved practice of Agricultural Science. Should our law-makers vote an amount perfectly adequate to the purchase of a suitable experimental farm and the erection of proper buildings, apparatus, &c., and engage some able men to carry out the objects of the undertaking, can it be doubted that the farmers of the great State of New York would not most fully sustain it? Are they for ever to remain the hewers of wood and drawers of water to every other class in the community, and see thousands annually devoted to the higher branches of education in other professions, and they not be allowed to receive a meagre per centage of this outlay, for the necessary improvement of their own profession and interests? True, they can participate, in common with others, in the higher walks of academical and collegiate education, provided by the munificence of the State; yet they will find there little to fit them for their own peculiar sphere.

The discovery of a new world of agricultural science has burst upon this age; and order and design are found to govern, by the exactest principles and laws, every one of nature's operations. Many of these principles and laws have been detected by the ablest scientific explorers of Europe, such as Davy, Chaptal, Boussingault, Liebig, Johnston, and others. These discoveries, and what are destined to succeed them, will give to agricultural pursuits a precision and advantage, similar to what followed the discovery of the magnet in maritime affairs. The farmer has, from time immemorial, been groping in the dark; he knew only what experience revealed to him; and even from this he often drew false conclusions, from not being able to comprehend all the premises, and the most ordinary operations of nature. With well known, undeviating principles with which to work, the Agriculturist could push boldly into the ocean of experiments, and calculate, with unerring certainty, his latitude and longitude, and the precise distance he was from any given point, instead of slowly coasting along dangerous, dreary coasts, in continual fear of shipwreck. The difference between the practice of a farmer of the last century and of one in the age to come, will not be less than the difference between a voyage from Liverpool to Boston by the Cunard line of steamers, and a coasting voyage from the same point, by the Scottish coast, the Orkneys and Shetland isles, Nova Zembla, the Polar ice, Greenland, and the north-eastern coast of America, in the ancient craft of the Carthaginians or freebooting Danes and Swedes.

Talk of the agricultural intelligence of this age! Why, it is merely this; some few intellectual men of other countries—scarcely any of our own,—have just overstepped that horizon of darkness, which has hitherto hedged in the world, and made a few preliminary discoveries! What a poor amount of agricultural knowledge is this! It is in the spirit of the age, and should be peculiarly that of this country, which boasts of its intelligence, to carry out by every means in its power, so laudable, so intelligent, and withal *so money-making a scheme*,—for "*money*" is the talismanic word we are forced to use. But so little light has hitherto penetrated among our agriculturists, that five-sixths of the most intelligent of them will tell you, that "the new of the moon is the time for this, the first quarter for that, her fulling for another, and her waning for something else." Not even a *Farmer's Almanac* will sell, without a mystic figure installed as the key of nature, surrounded by the Zodiac and its signs, whose converging rays indicate the hidden secrets of nature, and expose the whole cycle of her operations! Astrology, that has been abandoned by the world at large for two hundred years or more, is good enough to reveal the mysteries of the farmer's art, embracing, as it does, almost all the laws of nature! Out upon the *twaddle*, and more unmeaning *gibberish* than nursery maids deal out to nurslings, when they tell the farmers, "their dear constituents,"—"the bone and sinew of the land"—"the most enlightened class of the country,"—"the expectancy and rose of the fair State," and other holiday and juggling terms, with which they are smothered; adding that "*they* do not require any assistance from art, they have only to plow and delve, and cast in their seed, and nature will do the rest—they need but pay their taxes for the support of the State, and others will take care that government and the professions are well looked after."

Were our own views carried out, we would appropriate at once, half a million of dollars for the founding of an Agricultural College and experimental farm, the interest of which should for ever be devoted to the employment of the ablest professors the world affords, whose whole genius and attainments should be devoted to discoveries in this art, and in teaching them to our most intelligent youth. We would invite the Liebigs, and Boussingaults, and Johnstons, and Bakewells, to occupy chairs in the institution, *at salaries which would command their acceptance;* and as soon as others could be appropriately filled by American genius, who should be pressed into service to the full extent of the demand. Minor establishments should receive encouragement and support, and every pecuniary aid which could facilitate the discovery and dissemination of agricultural science and art, should be freely and liberally granted. We should then see the beginning of the end of the shameful neglect of the agricultural class; we should be able to console ourselves with the reflection, that we had at least made whatever effort was in our power, to accomplish the greatest good to the greatest number.

What say you, farmers, to this proposition? Shall anything be done or not? If anything is to be accomplished, you will have to make the first move. You must *command* your delegates to give you from their loaded coffers, some small part of the means *you* have so liberally provided for them, that you may be able, from its judicious expenditure, to supply still more. You have only to set about this in earnest, and the object is already accomplished.

**The above was written for our March number, but unfortunately crowded out. *By reference to* the proceedings of the American Agricultural Association, page 109, it will be seen that one of our citizens has generously offered the free use of his farm for five years, for the benefit of an Agricultural School. This farm is in the finest possible order, and one of the best in this vicinity. Its buildings also are very complete, and nearly new. We hope others will be stimulated to follow this munificent example. If public bodies will not move, let private bodies do so, and the former will soon emulate their example. It is painful to think of the wealth which is annually lavished on vanity and folly in this country, which might, if the owners would but will it, be devoted to the glorious cause of the advancement of the science and practice of agriculture.**

◆

**Value of Anthracite Coal Ashes.**—In the February No. of the Agriculturist, page 55, one of our correspondents gave an excellent article on the value of anthracite ashes for corn. Since this, we understand they were applied on the grass lands in New Jersey, last spring, at the rate of 50 bushels per acre, and notwithstanding the unprecedented drouth, they were the means of doubling the crop of grass. As there are more or less hard cinders in these ashes, after spreading them on grass lands, it would be well to pass a roller over the meadow in order to sink the cinders in the ground, out of the way of the edge of the scythe. Anthracite ashes can be had in the city for the mere cost of gathering, and in some instances the corporation carts will deliver them on the dock, gratis. We hope to see them no longer wasted in the streets of New York.

◆

## INDIAN CORN FOR SOILING AND FODDER.

We doubt whether the value of Indian corn is more than half known yet among the generality of farmers; and if the unparallaled drought throughout the country last summer should have a tendency to teach it to them, the terrible lesson may be looked upon as a mercy rather than a scourge, from a beneficent Providence. During the past eight months, thousands of animals have perished or been sacrificed for want of grass or fodder to sustain them, all of which might have been saved and kept in good condition, had each farmer sown a few acres of corn for soiling and fodder. We saw last summer, on a light sandy soil, a crop of corn growing, which turned out six tons of excellent dry fodder per acre. It was sown on the first day of July, in drills three feet apart. The land was plowed deep, and highly manured. This crop was the means of saving a superior herd of cows from starvation. Henceforth, however promising the grass and hay crop may be, let no farmer depend entirely upon it, but let him sow a few acres of corn for summer soiling, or to be cured for winter's use. He will then be tolerably independent of a capricious season. If the land be rich and properly prepared for corn, it will be sure to come up and grow, however dry it may be, provided the seed be prepared by steeping it in guano or saltpetre water, or some other cheap solution. When corn is tolerably advanced in its growth, it completely shades the ground, and the drought will have little effect upon it. A larger crop may usually be grown in drills than when sown broad-cast; and if these drills be two or two and a half feet apart, we believe it will be found better than nearer, especially in a very dry season, as the cultivator can be often run between the rows, stirring the ground effectually, and neutralizing, in a measure, the effects of dry weather. We recommend sowing at least one acre of corn for fodder, for every five head of cattle kept on the farm. If there be an overplus of hay it is very easily disposed of.

◆

**Fish.**—These are used in large quantities as manure. They are ordinarily applied directly to the land by being plowed in; or corn and other crops are manured in the hill with them. This is a great waste, however, in their application, and a shocking nuisance to the country around; for the moment decomposition begins, the air is poisoned with their noxious smell. To prevent this, they should be mixed with peat, in layers of 3 inches of fish to 9 inches of the latter. After lying three months or so, toss over the compost, and it is ready for use. Fish may be composted with muck or soil of any description, in the same way as peat; but in this case sufficient charcoal dust or plaster of Paris must be added to absorb the unpleasant smell.

## THE CUTTER, THE COULTER, AND THE LOCK-COULTER.

These terms are so often used as synonymous, we insert three cuts of plows for the purpose of explaining them, and showing the difference between each.

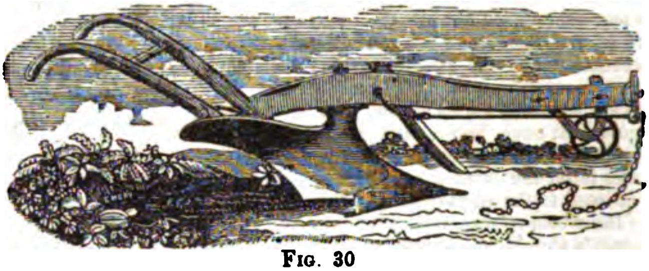

FIG. 30

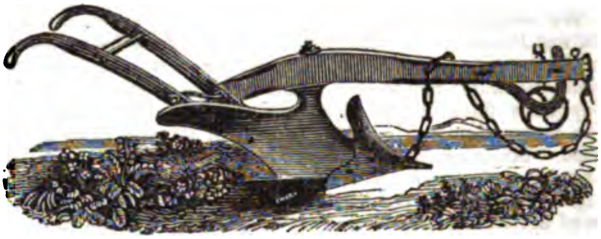

FIG. 31.

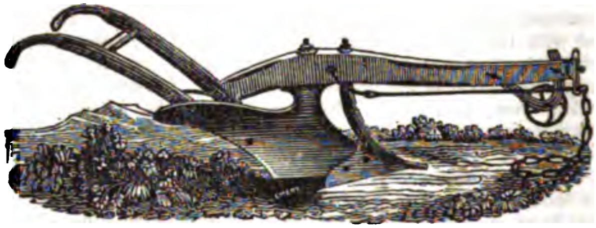

FIG. 32.

*The Cutter*, in fig. 30, is of wrought iron, edged with steel of the best quality. It passes through a mortice in the centre of the beam, where it is fastened by an iron clamp, and reaches nearly down to the point of the share. It can be raised or lowered at pleasure, or be taken out of the beam entirely. It is also clasped on the side of the beam when required.

*The Coulter*, in fig. 31, is cast on to the point of the plow-share, and thus forms a part of it.

*The Lock-Coulter*, in fig 32, is also made of wrought iron, steel-edged in Eagle No. 2, and sizes larger having them; in Eagle No. 1 it is made of cast iron. It passes through the beam, and is made fast with a nut and screw, or key, and locks through the point and mould-board where they join. This gives it strength, and makes the plow suitable to be used among rocks, and especially the roots of newly-cleared land; for the lock-coulter cannot be turned on one side or forced out of its place, but will instantly sever roots of an inch or two diameter, and thus enable the plow to turn the furrow smoothly and with great ease. The lock-coulter can be taken out at pleasure

In fig. 32, is affixed, when required, a sharp steel-edged share or point, cutting very wide, and a reversed or drag *cutter*, for the purpose of plowing and completely turning over the surface of wet meadows when reclaimed by ditching. A crane clevis is attached to the end of the beam to pull by, which enables the off horse to keep clear of the miry open furrow, so very fatiguing to him, and tread on the *unbroken* ground as well as the near horse; thus making it comparatively easy work for the team, and obviating the great objection to breaking up wet meadows or swampy ground. The newly invented dial-clevis and draught-rod, as seen in figs. 30 and 31, will also enable the off horse to tread on solid ground in plowing wet meadows, nearly as well as the crane-clevis, and run close alongside of a fence or ditch. This would be an admirable plow for the rice lands on the Mississippi, and for the prairie lands of the West. When the meadow fixtures are removed, and the original point or share replaced, the plow is adapted to the rugged upland soils, thus answering the double purpose of an upland and meadow plow.

---

**Descriptive Catalogue** of Horticultural and Agricultural Implements and Tools, and Field and Garden Seeds; with brief directions for Planting, Sowing, and Culture; and rules for the application of Guano, Lime, Plaster, Bone-dust, and other manures. Also a choice list of Fruit Trees, with directions for planting out and culture. Also a description of the best breeds of domestic animals, and the best time and manner of transporting them South. By A. B. Allen. New York Agricultural Warehouse, 187 Water Street. This is an octavo pamphlet of 80 pages, containing upwards of one hundred explanatory Illustrations, which we have published for the purpose of answering questions daily addressed us by our customers. It can be had *gratis* on application, post-paid. The title page of this work sufficiently explains its nature, and renders any further notice of it unnecessary on our part.

---

**Mustard as a Garden and Field Crop.**—The white and broad leaf kinds are excellent for salad or greens. They should be sown very early in the spring, in a rich warm soil, in shallow drills, ten inches apart, and kept clean from weeds. After the crop is off, the ground may be planted with cucumbers for pickling, or used for a succession of salad or radishes. Mustard is now cultivated extensively as a field crop, by sowing it broadcast. Mow it when ripe, and cure it like grain or hay, and thresh out the seed in a grain thresher. It yields from ten to fifteen bushels per acre, worth $3 to $4 per bushel. It is a great exhauster of the land, and requires a rich soil. It is sometimes plowed in green, to enrich the land.

## AMERICAN AGRICULTURAL ASSOCIATION.

The monthly meeting was held on the 4th of last month at their rooms in the University, the Hon. Luther Bradish, President, in the chair.

The committee appointed at the February meeting, to procure a proper place for the meeting of the Association, reported that they had made a contract with the Historical Society, for the use of their rooms in the University, at an annual rent of $150, subject to the approval of the Association. The report was adopted. This contract is for the year ending March, 1847, but may be terminated at any time at the pleasure of the Association.

Mr. Edward Clark read a paper on the subjects of the Mulberry and the Silk Culture of the United States. His paper is too long for publication, and does not admit of analysis. He was followed by Mr. Van Epps, who gave some information as to the silk culture of the country. He is the manager of a large silk manufacture now being established at Washington, D.C., by Mr. Van Ness. He gave a condensed statement of the statistics contained in the reports of the Commissioner of Patents. It appears that the mulberry is cultivated and cocoons produced in every State in the Union. The mass of cocoons, however, is produced in the following States.

| | 1840. | 1844. |
|---|---|---|
| Maine | 211 lbs. | 815 lbs. |
| New Hampshire | 499 " | 1,100 " |
| Vermont | 4,286 " | 10,990 " |
| Massachusetts | 1,741 " | 37,690 " |
| Rhode Island | 450 " | 1,140 " |
| Connecticut | 17,538 " | 176,210 " |
| New York | 1,735 " | 6,340 " |
| New Jersey | 1,796 " | 5,200 " |
| Pennsylvania | 47,262 " | 33,110 " |
| Delaware | 4,158 " | 458 " |
| Maryland | 1,290 " | 8,530 " |
| Virginia | 3,191 " | 7,720 " |
| North Carolina | 3,014 " | 8,050 " |
| South Carolina | 2,080 " | 6,930 " |
| Tennessee | 1,217 " | 25,090 " |
| Kentucky | 737 " | 5,810 " |
| Illinois | 1,154 " | 4,250 " |
| Ohio | 4,417 " | 31,500 " |

About 371,000 lbs, in 1844, equal to 30,000 bushels, which would employ 25 reels for six months. The amounts for 1840 are actual, being taken from the census of that year; those of 1844 are from the report of Mr. Ellsworth, Commissioner, who procured his information through the facilities and means of the patent department. Mr. Van Epps stated that the amount of 1844 was over-rated by the Commissioner; but that there had been a very large increase in the four years. Already, the production of cocoons exceeds the power of the reeling establishments to reel it. The want of capital is the great difficulty. The most of the cocoons produced in the north are reeled by the producers, and made into sewing silk and fabrics by themselves; those of the South are largely sent North, for reeling. It is admitted, that the raw silk of America is superior to any produced in Europe. Mr. Van Epps stated that nothing now was needed but the investment of capital, the patronage of the public, and the encouragement of the Government or States to make the production of silk, raw and manufactured, a vast branch of industry. The requisite skill and knowledge we now possess. To the agriculturist it is of vast importance. Our country can produce cocoons unlimitedly, and find in Europe a consumer, without a rival. England pays annually to France and Italy, $30,000,000 for raw or reeled silk to manufacture. America may monopolise the whole of this, and add vast wealth to our country. Not only so, but she may supply all Germany with raw silk for their manufactures. Time will bring all this about; but will not our farmers and planters hasten the good work?

Mr. Clark then offered a resolution, which was adopted, for the appointment of a committee to consider and report upon the expediency of action on the part of the Association, in devising and procuring the establishment of a silk manufactory in the vicinity of New York.

Dr. Gardner then read a paper on the proper rotation of crops. He advised the following course, viz.: 1, roots (turnips, carrots, parsnips, &c.), or corn; 2, oats; 3, clover; 4, wheat; 5, beans, or potatoes; 6, clover; 7, wheat. Some discussion followed the reading of the paper, in which Mr. Maxwell, Mr. Veeder, and Prof. Mason, took part.

Prof. Mason read a letter from Mr. G. Wilkinson, of Dutchess Co., stating that he proposed the opening of an Agricultural School in Dutchess Co., New York, and asking the favorable consideration of the Association. The matter was referred to a committee, consisting of Prof. Mason, Mr. J. F. Sheaf, and Dr. Underhill.

Mr. Gardner G. Howland, through Mr. Pell, tendered to the Association the use of his fine farm of 300 acres, with all his farm stock, &c., at Flushing, L. I., for five years, free of charge, for the purpose of establishing an Agricultural School, and an experimental farm. Mr. P. stated that the farm last year produced 300 tons of hay; is in excellent condition, and may be made highly productive at once; and furnishes the requisite capital to commence such an institution as has been for a long time deemed necessary.

A vote of thanks to Mr. Howland was passed, and the following committee appointed on his noble gift and project, viz.: Hon. L. Bradish, G. G. Howland, Chancellor McCoun, S. Knapp, A. P. Halsey, A. H Stevens, H. Maxwell, J. F. Sheafe, A Stevens, S. T. Jones, J. B. Parsons, and R. L. Pell

Mr. Pell also announced Mr. Sheafe as a subscriber to the fund for the importation of Alpacas to the amount of $500; and letters were read from Mr. D. D. Campbell, of Schenectady, N. Y., subscribing $600; and from Dr. Wm. Ferrell, of Sparta, Geo., subscribing $300 for the same purpose

The Sun Flower.—This plant should be cultivated much more than it is at present, in rich soils. It yields a large quantity of seed per acre, and it is especially valuable for fatting poultry, making the flesh exceedingly sweet and delicate. It is also excellent food for cattle, more especially when ground up with a mixture of other grain. It is said that from 30 to 40 lbs. of oil can be extracted from 100 lbs. of seed, and that it brings a good price. The leaves make good cigars.

## ROCKY MOUNTAIN WOOL.

Enclosed is a sample of wool taken by myself twenty or thirty years since, from a pelt which had been neglected, and the moths had eaten most of the wool from the skin. It was said the sheep was killed beyond the Rocky Mountains, by a company in the employ of John Jacob Astor, Esq. You will perceive jar or hair mixed with the wool, which, if I rightly recollect, stood out prominently beyond the wool, and might have been separated. The wool you will find very much like cotton. The sample sent has been injured by moths. If sheep of this description could be obtained and domesticated, it might be an advantage to our manufacturers as well as the agriculturists.

I think the introduction of the Alpaca will add to our agricultural amusements at *least*, and that they can be introduced at less risk and less expense by *driving* them from Peru to Panama, or some other place in the Pacific, and then across to the Caribbean Sea or the Gulf of Mexico. H. Watson.

*East Windsor, Ct., Feb.* 23, 1846.

The wool enclosed by our correspondent is very soft, and of a medium quality. We wish some one would act upon his hint, and undertake the domestication of the Rocky Mountain sheep. Their fleeces and forms might be greatly improved by proper care, and the size increased; and there is no telling what utility rearing a good flock of them might lead to.

## A LEAF FROM A FARMER'S LEDGER.

*Root Crop.* 1845. *Dr.*

| | | |
|---|---|---|
| April 20. | To 70 loads of night soil compost, at $1 per cart load | $70 00 |
| April 20. | To plowing one acre and one-half | 6 00 |
| May 24. | " plowing do. do. | 3 00 |
| " | " 6 hands 3-4 day each, *a* 75 c. per day | 3 37 |
| May 26. | " 7 do. equal to 4 2-3 d'ys work, *a* 75 c. | 3 50 |
| June–July | " 20 days work, *a* 75 c. per day | 15 00 |
| " | " work of haying hands, *a* $1 25 pr day | 6 25 |
| Oct.–Nov. | " 18 d'ys work harvesting, &c., *a* 75 c. per day | 13 50 |
| | " Seed, marketing, &c. | 6 00 |
| | " Interest on one and one half acres, *a* $100 per acre, *a* 6 per cent | 9 00 |
| Dec. 30. | Crop account to balance | 88 77 |
| | | $224 39 |

*Cr.*

| | |
|---|---|
| By one half of manure, as above | $35 00 |
| " 26,400 lbs. carrots, *a* 40 c. p. cwt. or $8 p. ton | 105 60 |
| " 27,930 lbs. beets, *a* 30 c. p. cwt. or $6 p., ton | 83 79 |
| | $224 39 |

The night soil compost charged above was made of night soil, of which I get in the spring and fall 10 to 12 cords per day. This, for the upland, is composted with muck, adding half a bushel or a bushel of ground plaster to each load of 5 or 6 feet. I have charged it at one dollar per two-horse cart load, which from my accounts appears to be the cost of it on the field. It is carted on to the land in the winter, or early in the spring, as opportunity offers, taking care to cover the piles in the fall with sea-weed, to prevent their freezing hard.

On the 20th of April I plowed in the corn stubble, and more than half of the manure, as deep as it could be, with Messrs. Ruggles, Nourse & Mason's large size two-horse plow. The balance of manure was plowed in May 24th, when we raked the ground as it was plowed. I seldom harrow root ground, preferring to plow deep, if stubble, in the fall; if not, plow deep in the spring, as early as circumstances admit. Then, after corn planting, plow again, but not deep, having hands enough to rake the ground with common hay rakes, as it is plowed; this is easily done by back furrowing, as you can then rake the stones and other obstructions to the sowing machine, into the furrows. I this year planted later than usual, but prefer earlier planting, that the crop may be more out of the way of haying. I have charged $6.25 for labor of haying hands, and presume the amount covers the cost of their labor. Haying, as you are aware, is quite an important matter with me; I then have from fifteen to twenty hands, and occasionally they work an hour or two weeding or hoeing.

My carrot crop this year was not equal to that of the year before, probably one-fourth less. The yield, as you see, is not large; the quantity mentioned in the account being the product of an acre. The beets came up very badly; but, by transplanting, the yield was about 1,396½ bushels per acre: I reckon 40 lbs. per bushel. The 1st day of July I found the beets had come up in bunches—not more than one-half the ground being seeded. On the 3d, it threatened rain, we then transplanted nearly one-half of the crop. At harvest, the transplanted roots were equal to the others; they bear transplanting almost as well as cabbages. The carrots I planted in rows 16 inches apart, the beets 20 inches. Would it not be better to plant 27 to 30 inches apart, and use a cultivator instead of a hoe? [Yes; or 36 inches apart is yet better. Ed.] In harvesting carrots, I have plowed them out, by letting the land side the plow run next to the roots, and crowd then into the open furrows; but the best way is to dig them with a spade. I generally begin early in October to dig them, digging two or three cart loads in the morning, and carting them into the barn in the afternoon; top them in the evening, and feed the tops to the cattle next day. They are very fond of them, and what they leave will do for litter; then let them go into the barn cellar for the hogs to work over. I fed, the year before last, several hundred bushels of carrots to my hogs. They answer very well to begin on, as they come in early, when farmers are generally short of feed for horses and hogs. They may do to fatten *other* people's hogs, but *I* shall not try them again, for I experimented on them till I came to the conclusion that it was like feeding them with sawdust and meal, the more meal you mix with the sawdust the better the hogs fatten; but for cattle and horses they are excellent food.

My horses are worked as regularly as a dray-team in the city. Nothing but *bad* weather keeps them in the stable. If there is no work at home, they go to the beach or some other place, for manure; there is always something to pick up, that when *seasoned* under the barn proves good manure. My experience has proved to me that it is the most economical to have help enough for common farm work, and to let the teamster keep the team moving. From

October to March, I feed half a bushel of carrots and three quarts of cob-meal to each horse daily. They keep in good flesh, and I think they are better than if fed on grain alone, or rather, if the value of the carrots was given in grain.

There are other considerations of importance to the farmer in root crops. The extra quantity of manure and the fine condition they leave the land in for any other crop, I consider carrots and sugar-beets among the most profitable crops that I grow.

*Lynn, Mass., Feb.*, 1846. J. H. C.

## THE ROW CULTURE FOR WHEAT.

In the last volume of the Agriculturist, it is recommended that farmers should sow wheat in rows; and it has been a matter of astonishment to me that the agricultural press has not urged this subject more, and that farmers have not made experiments at least, and reported progress. Although I have been a subscriber to the Genesee Farmer from its commencement, and to the Cultivator since the union of the two, and also to your paper since its commencement, yet I have not seen in them as much on this subject as would fill one side of this sheet (*a*).

I will relate, as briefly as I can, what experience I have had on the subject. Three years last September, I left a few rods square unsown, in the middle of a twenty acre lot of clean summer fallow, the harrows passing over it two or three times while harrowing the rest of the field; I then immediately drew little drills with a hoe, 12 or 15 inches apart, and sowed wheat in them, covering it up with the hoe. When the ground became sufficiently dry in the spring, I went to the patch with my hoe, and hoed the spaces well, once over, pulling out such weeds in the rows of wheat as were likely to prove injurious. On one other occasion, when the wheat was knee high, I pulled out a few more weeds from the rows. When the wheat was ripe, I reaped the drilled patch by itself, and an equal space of ground of the sowed wheat adjoining; the two lots were threshed separately, cleaned, and weighed, and although I have not the note of the exact amount of wheat, quantity of ground, &c., yet I perfectly well remember that the result was in favor of the drilled wheat, 10 bushels per acre, it being at the rate of nearly 37, and the sowed wheat, 27 bushels per acre. I was surprised at this result, as the straw was longest and the sheaves largest on the sowed part. The heads, however, on the drilled part, were larger, the straw stouter and heavier, and the grain plumper.

A similar experiment on a few square rods of ground was tried the following year, but from carelessness no calculation was made. The drilled wheat, however, was kept separate, and was at the rate of 38 bushels per acre; it had the advantage of growing on the richest part of the field. This, however, was not the case in the experiment of the year before. These two small experiments are all that I have made in drilling grain, during more than 20 years that I have been engaged in agriculture in America. The want of a drilling machine, and the presence of stumps and stones, have rendered it difficult to do much at it; and now that these obstacles, except the first, are no longer felt, loss of health interposes to prevent much experimenting, or the adoption of new and unusual methods.

Many years since in England, I put in a field of six acres of wheat (a clean fallow, clay land, and rather poor) on the plan practised by Tull. It was plowed into ridges from 4 to 5 feet wide, and two rows of wheat 8 or 9 inches apart, drilled as near as possible in the top of each ridge. The after culture was strictly Tullian; a good furrow was plowed from the rows of wheat before winter, and plowed back to the wheat in the spring, when the narrow spaces were hoed by hand, and all weeds pulled out; two more furrows were plowed from the middle of the alleys towards the wheat, when it was from one to two feet high. The crop was kept by itself, and yielded 32 bushels per acre of the very primest wheat—our usual crops were from 15 to 40 bushels per acre. Perhaps there may not be much advantage in this wide system of wheat, except we wish to cultivate it for many years in succession. I find by referring to Tull's book, that his sixth crop was better than any of its predecessors on the same land, *without manure of any kind!* and I was informed that, in a later edition of his book, published a little before his death, it was mentioned that he had the *thirteenth* crop growing on the *same land without dung* or *summer fallow*, during the whole 13 years, and that it was the most promising crop of the whole thirteen! I do not know the number of bushels per acre raised by Tull; he does, however, incidentally mention 6 quarters (48 bushels) per acre as one of his crops.

If I understand Tull, his opinion was that land naturally suited for any crop, and once put into prime order for producing that crop, will continue to produce good crops till the world's end, provided the crop is so planted that half the land can be tilled while it is growing, the tilled half being more enriched by imbibing the fertilizing particles in the dews and rains, than the other half is impoverished by the crop, so that the land grows richer every year. If this is true, the knowledge of it is of immense value, and if false, it is time that its falsehood should be shown by actual experiments. Its falsehood, in theory, has often enough been shown of late, but nothing is proved by *closet theories* till carried out in practice.

*Auburn, Feb.*, 1846. A Subscriber.

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(*a*) If our Correspondent will look over the back numbers of the Agriculturist again, he will find frequent recommendations (short to be sure) there to sow wheat in drills, particularly in Vol. 4, page 240. We should have written more on this subject, had not two of our friends, who are large growers of wheat, promised us some articles. The principal objection we have heard to drill sowing in this country is, that it *tillers* out much more than when sown broadcast. We cannot understand how this should be, if the drills are not over one foot apart; and if it does tiller out more, will it not produce a greater crop, provided the soil has the elements in it to form a due proportion of grain to straw? We shall be glad to hear from experienced wheat growers on this subject. We must confess that we are greatly in favor of drilling in wheat as well as most other grain crops.

## RAMBOUILLET MERINOS.

In the February No. of the Agriculturist, I have read some very interesting statements respecting the excellent flock of sheep owned by Mr. H. S. Randall, of Cortlandville, N.Y., over the signature of L. The whole bears internal evidence of the production of a fair and high-minded writer, who would scorn an act of injustice. I honor the head and the heart of the writer, and readily acquit him of the charge of *wrong intention*. I have often heard of the sheep of Mr. Randall, and have no doubt they are a flock well established, and deserving commendation.

In establishing the claims of a good flock of sheep, it is a common method to compare them with some flock of acknowledged merit. This is all well, provided no injustice is done to the one, in order to render the comparison between the two partial and one-sided. But injustice is sometimes done inadvertently, and so I apprehend in this case, in the references which are made to the Rambouillets.

I have not owned the Rambouillet flock long enough to give any statements in regard to weight and quality of fleece after shearing, from my own observation, and your correspondent implies that such statements have never been made by any one. If he will look into Vol. 2, page 100, of the Agriculturist, he will find statements made in this regard by the Editor himself.

Then as to strength of fibre of Mr. Randall's sheep, as compared with Mr. Collins' Grandee, ascertained by Dr. Emmons, the State Geologist, your correspondent says: "The wool of Mr. R.'s prize ram decidedly exceeded that of Grandee—the best buck of the Rambouillet importation; and supported a greater weight, or, in other words, was stronger in proportion to its diameter. It as far exceeded various rams of early importation."

I should like to ask your correspondent how long since the specimen from Grandee was shorn; for he has been dead for a considerable time, and I believe was last shorn in the summer of 1842. How much had that specimen lost of its strength by age, repeated handling and pulling, and the wear and tear of being carried in some wallet in some man's pocket, till *half its original strength* probably was gone? Perhaps he can tell us how much allowance should be made for this, and the operation of similar causes. How was the exact diameter of each specimen ascertained? by guess-work, by measurement, or by counting the number of fibres constituting the cord to be broken by weights? Dr. Emmons is doubtless a good geologist, and meant to make a fair trial of these samples; but how much does he know about wool and sheep? Again, where are those "various" rams to be found "of early importations," against which the strength of fibre of Mr. R.'s sheep was tried? I was not aware that there were such Rambouillets, or even the wool of such in the country. If the trial was with samples of wool which had been preserved since the early importations, it would seem to be desirable that it should be known how *old* they were, in order to know how much the experiments proved. I *must* think the tests in these cases *very, very imperfect*, from the nature of things.

Again, your correspondent says: "Like the Rambouillets, these sheep are of large and fine carcase, but unlike them, are short in the leg, and the ends of the wool are usually coated with a dark gum. It is barely tipped with gum, say for one-eighth of an inch. Within that and to the skin, the wool is a glossy white, and freer from hard gum than the Rambouillet." Did he ever see and examine my flock of Rambouillets, and rigidly compare it with our native Merinos? If not, then has he ever seen any other thorough-bred Rambouillets? I suspect he has not; for if he had, he would not have represented them as "long-legged sheep," and having "*hard gum*" in the fleece, when in truth they are sheep of about medium length of leg, and are entirely *without gum* in the fleece.

I should not have said thus much, had I not found that the communication of L. would tend to create the impression that the Rambouillet sheep are what they are not, and that the public mind might be misled. I am largely the owner of American Merino sheep, of a very similar character to Mr. Randall's, as, I suppose, heavy shearers, and I am free to say, that I consider the Rambouillet as far superior to any Paular, Escurial, Guadaloupe, or other variety of American Merinos, while I at the same time honestly believe and openly maintain, that we have some very valuable American Merino flocks. Mr. R.'s flock is doubtless among the number; and he deserves great credit for the spirit and liberality which he has manifested in establishing it. I am a friend to improvement wherever I see it, and I hope I have a mind large enough to acknowledge merit wherever I find it. I am not in competition with any man, in any of my pursuits. My husbandry operations are *secondary* matters altogether, which I pursue at my leisure for my own relaxation from study, the benefit of my family and the public good.

I have merely to add, that the only true way of testing the quantity and quality of fleece wool, is by *thorough cleansing* by a good manufacturer, and the price he will pay for it when it is thus prepared for working. For my own part, I am determined to test the value of my Rambouillet buck, Grandee, and some of the Rambouillet ewes in this way, side by side with my heavy shearing Merinos, and the public shall have the result and judge for themselves.

I invite Mr. Randall, and any others disposed to try it, to submit their best buck's and ewe's fleeces to the same test, and let the public know how they come out. I give this invitation to all wool-growers, not as a banter, but in order that in this great interest we may find out where we are. This is a test that will be perfectly fair, and to which none can object, and we shall then know whether we are raising wool or not; and whether we have good cause to complain of the low prices which the manufacturer is disposed to give for our "heavy fleeces." L. G. Bingham.

*Williston, Vt.*, Feb. 13, 1846.

P.S. It may not be improper to add, that in the judgment of most men who examine the Rambouillet flock, they will average five pounds per head of clean-washed wool, of one year's growth, and I hope to increase their clip beyond this hereafter.

## SCRIPTURE'S CARRIAGE WHEEL.

*Description.*—A, Is a perspective elevation of the wheel entire.

B, Is a detached, or one-half part of the nave or hub, in which rests the ends of one-half of the spokes.

C, Is a cross section of the entire wheel, showing the position of the spokes and the separate parts of the hub.

*a a a*, Represent the pipe-box, passing through the two naves, or cheek pieces, *c c*, having on the inside a connected flange of the same diameter as the naves, and covering the open end of the one next the vehicle, while at the other end a screw thread is cut to receive the screw flange, or front of the hub, represented by *b*, which, by means of a wrench, is screwed firmly upon the pipe-box; by which means the two naves being accurately fitted to the pipe, are made to approach each other, thereby causing the spokes to act as powerful levers, and producing the same effect that is sought to be obtained by re-setting the tire of the ordinary wheel, but with the very important difference, that while the one is effected by a considerable expense of time and money, and with a positive injury to the wheel, the same result is brought about in the other by a few minutes' application, and without incurring any expense or injuring the wheel.

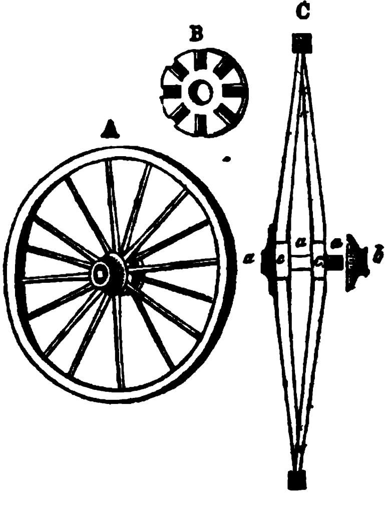

Fig. 33.

Ordinary wheels become rim-bound in consequence of inadequate support in the hub; while by this method of constructing wheels, this difficulty is obviated at once, by applying the wrench to the hub, and turning it up, more or less, as the case requires.

In dry weather, wheels are apt to become loose, from the shrinking of the wood, and one day's use in that condition damages them more than one month's wear when in good order; which can always be maintained by a proper pressure of the spokes to the rim. The felloes of wheels may become loose under the tire, also, by the settling of the spokes in the hub; but constructed on the above principle, it is maintained that by the most ordinary attention the spokes are kept constantly to their proper bearing, and the felloes firm to the tire, in consequence of which *the tire will not require to be reset until worn out*, and the woodwork being kept firmly in its place will wear much longer.

In case of an accident to a spoke requiring it to be replaced, unscrew the nut flange, draw the pipe-box from the nave, remove the broken spoke, insert a new one, then replace the pipe-box, and screw up the hub, and your wheel is at once as firm and strong as ever. The ends of the spokes do not require to be tennoned where they rest in the hub, but enter with their whole size, giving them all the bearing surface they can have, and adding to their durability. In all other respects the wheel is put together and tired, as is the wheel now in use. Any farm or plantation hand is fully competent to keep the wheel in order; and in case of the breaking of a spoke, the most ordinary skill is sufficient to repair the damage, without resort to the wheelwright.

Among the advantages claimed for this wheel is its great economy in use, consisting in the durability of the hub, which will last for a generation, the saving of two or three visits to the wheelwright, while each tire is wearing out, and his bills for re-setting the tire, &c., as many times, and the consequent protection of the woodwork from the burning and shrinking of the tire.

In its construction the wheel presents far greater strength than the common wheel, besides having the convenient application of mechanical power, as before set forth, to keep the wheel in constant order for use until the tire is worn too thin to be run any longer with safety. This wheel is applicable to *every description* of vehicle, both light and heavy, and will prove of great importance in warm climates, where the alternate wet and dry seasons are very destructive to ordinary wheels, the evils of which are without expense avoided by the above method. E. S. Scripture.

*Stapleton, Staten Island, N.Y.*

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Experiment with Guano.—I had plowed one acre of greensward about the 1st of August last, and divided it into equal parts for quantity and quality, as nearly as could be. On the 3d of August, on one half I spread 51 bushels unleached ashes; on the other half I sowed broad-cast, 250 lbs. Guano; then sowed turnip seed broad-cast, through and through, and harrowed all in, going through and through without regard to the division. In two weeks the line of division was perfectly perceptible to the eye one hundred rods distant. From that part on which the guano was sowed I gathered 113 bushels turnips; on the part ashed, I gathered only 43 bushels. The ashed turnips were gathered four or five days later than the guanoed. I commenced gathering about the 8th of November, and finished about the 16th. The guano was from a cargo imported by Messrs. Miner, Lawrence & Co., of this City.

Cost of 51 bu. ashes, $8.50. Produced 43 bu. turnips.
" 250 lbs. guano, 7.50. " 113 " "

*New London, Ct.* Wm. P. Cleaveland.

Take good care of your meadows now, that cattle do not poach them and feed off the early grass.

## NECESSITY OF A KNOWLEDGE OF CHEMICAL PRINCIPLES TO A FARMER.

It will be my object, in the few brief remarks I intend to make in this paper, to illustrate, by some familiar examples, the absolute necessity of a knowledge of the principles of chemistry, to every one who expects to carry on the operations of the farm, or even domestic affairs successfully.

*Heat* is one of the great agents of nature in effecting her changes, and modifying her results. What heat is, whether matter, or some effect or result of matter, is yet unknown. Great heat is always attended with light, and it is probable that, in all its degrees, it is inseparable from electricity, and perhaps is identical with it. But it is my present object simply to show, by some practicable examples of every day occurrence, some of the laws by which it acts.

Heat expands, with some slight exceptions, all the objects into which it enters. Thus, a cold hand is shrivelled; but warmed, it is more plump and full. Every one knows that a boot or shoe that is too tight for summer use, can be comfortably worn in the cold of winter. An ordinary metallic pendulum that keeps correct time in summer, by its contraction, will beat too quick, and consequently produce fast time in winter. An iron bolt, when fastened while hot, will contract on becoming cold, and close up a seam, which the power of man, with the lever and screw, could not effect. The blacksmith sets his iron on the wagon wheels while red hot, and immediately cooling it, he sinks it sometimes half an inch on every side in the wood. The common thermometer is another illustration of this principle.

Fluids partake largely of this expansibility by heat. But its effects are more strikingly illustrated in air or gases, than in any other substances. The particles of matter of which these are composed, are more easily separated and kept asunder, and they feel the influence of heat in a wonderful degree. A cubic inch of water when converted into steam occupies 1700 times its original space, even when nearly of the same temperature. The principle on which all steam engines are propelled, is solely that of the expansive power of water and vapor by the application of heat. Thus, the heat yielded by a handful of wood, passing through a half-inch iron boiler into water, and then expanded into steam, will produce an effect that the combined strength of 100 horses could not accomplish. Heat produces nearly all the changes of weather, by the rarefaction (or expansion) of the air, and the consequent currents of that fluid which necessarily follow; for as the heated air becomes necessarily lighter by expansion, and rises, heavier air rushes in, frequently from an immense distance, to supply its place, and hence storms and sometimes hurricanes, whose violence is proportionate to their cause; and so if the air suddenly loses its heat, the neighboring warmer air hurries to supply the partial vacuum.

Heat (another form of electricity perhaps, or in all cases associated with it), is also the great agent of vegetable life, giving direction and effect to the moisture and other elements of vegetables, when the embryo plumules and cotyledons burst from the germ; nor is its vivifying influence withheld for a moment from the growing plant, till the entire work of reproduction is accomplished, and the seed is fully matured which is to perpetuate other generations through the whole course of time.

The most striking exceptions to the expansive effects of heat, are in clay, and water below a certain temperature. The former contracts through the highest known temperature that can be given to it; and a thermometer for furnaces, called, from the name of its inventor, Wedgwood, has been constructed from this material, which is not injured by the most intense heat known. Water continues to contract till it reaches a temperature of 39° Fahrenheit, when by a merciful exception to the general law, it begins to expand, and continues till it reaches 32°, the freezing point, when it congeals. This keeps the cold water on the surface till it freezes, and this change of the liquid into a solid still farther diminishes the density, thus keeping the whole body of water in lakes and rivers beneath, in a condition to minister both support to its inhabitants, and the wants of man, and allow the surplus water to pass off towards the ocean.

The admission and retention of heat in bodies is much affected by their substance and surface. A dense body will receive and retain more heat than such as are light and porous. A rough surface imbibes heat much quicker than a smooth one when exposed to the rays of the sun or a fire; and when at a higher temperature than the surrounding atmosphere, parts with its surplus heat more readily than such as are smooth. The color of bodies has much to do with receiving and repelling heat, and retaining or parting with it. A black surface, when exposed to a high temperature, soon becomes hot, while such as are white require a much longer time, under similar exposure, to reach the same temperature. Many substances of nearly equal density *conduct* heat with much greater facility than others. Let us consider for a moment some beautiful examples of the application of these laws.

Animals and birds inhabiting the arctic regions, where the cold is intense, are not only covered with thick fur and down, both of which are the best known conductors of heat, but on the approach of winter most of these change to a white color, which of all others is the worst conductor. During a great portion of an arctic winter, there is absolutely no sun, and for the remaining portion but a mere glimmering of his rays. All the warmth of living things in that region, therefore, is generated within the covering of fur or feathers, by the combination of the carbon of the blood derived from their food, and the oxygen of the air inhaled into the lungs, and all of which heat is most economically husbanded for the comfort and preservation of the living being.

The warm-blooded animals that live in the Arctic ocean, whales, porpoises, seals, walruses, &c., &c., are not less protected than those on land, though in a different manner. Fur or feathers, if constantly immersed in water, would after a time admit it next the body, when a rapid lowering of its temperature would take place. Almighty wisdom has guarded the animals which live in that element in a manner totally different, yet equally effectual with such as live in the air. They have a smooth, naked skin, or sometimes covered with a thin hair, which is no impediment to their rapid passage through the water; and underneath is a thick covering of *fat*, which, though vastly denser than fur or feathers, is nearly equal in its non-conducting properties. So, too, in our own climate, the hog, which is the only animal not sufficiently protected against the rigors of winter by an external covering, takes care to supply this deficiency effectually, if allowed to indulge his gormandizing propensities, by loading the exterior of his carcass, immediately under his skin, with a thick coating of fat.

The temperature of the human being has to be provided for, through the extremes of winter and summer, by external clothing, though in extreme hot weather, a portion of his excessive heat is carried off by perspiration, which involves another beautiful principle of chemistry, that we have not time at present to illustrate. *Black* is the warmest clothing when exposed to the sun's rays, and the coolest when deprived of them; *white* is directly the reverse. Consequently, there is no more unsuitable color for clothing, where temperature alone is regarded, either for winter or summer, than *black*, and none more proper than *white*. The effect of black is somewhat obviated by using white linen and under clothes.

*Black soils* are more productive than such as are light colored, when in other respects they are equally charged with the elements of vegetable nutrition. They rapidly absorb heat when exposed to the rays of the sun, and as rapidly cool when they are withdrawn. Both of these effects are highly beneficial to vegetation. The heat which the soil acquires during the day, stimulates the action of the roots and growth of the plants; and the rapid cooling of the surface causes the dew with which the air is charged to be deposited early, and in large quantities, during the evening. Some gardeners use white sand on the top of the soils, "because," as they say, "it is so heating." Had they a knowledge of some of the first principles of chemistry, they would at once see the absurdity of the practice. Were the sand black, or of a dark color, the practice would be commendable, as it would *conduct the rays to the roots of the plants*, which its white color *reflects*. The sand is highly useful when *mixed* with many soils, but is objectionable when placed on the surface. Pure sand is frequently hotter than dark earth in similar situations; but it is because it is *drier* and a non-conductor, and retains what heat is imparted to it, while the evaporation of the moisture, and the *heat-conducting* properties of the dark soils, carry off the heat. A pure white or very light colored earth can never be fertile. Very luxuriant vegetables are always dark colored when growing, and their color helps their growth in two ways—and for the same reason that dark soils do, viz: by conducting the heat into the plant while the sun is up, and again conducting it off when down, by which there is a rapid and plentiful deposit of dew upon it.

White buildings reflect the sun's rays, while darker colors absorb them; consequently, those which are white are vastly more durable than such as are very dark. It would be more economical to use white for all the buildings, fences, tools, &c., used about a farm; even carts and sleighs and carriages would last much longer by substituting drab or light colors, for the black or dark browns usually adopted. When black is used for carriages, its bad effects are in a considerable degree prevented by the use of varnish, thus leaving a smooth polished surface, which reflects much of the heat. When not exposed to the direct rays of the sun, of course, there is no difference between this and other colors. The philosophy of placing plants that require much heat on the south side of white walls is obvious. They reflect the rays of the sun upon the plants and soil covering the roots, thus affording them a double supply of heat. The white exterior of the wall arrests and sends back the rays that fall upon it, precisely as the amalgam, or quicksilver, on the back of a looking-glass arrests and sends back those which would otherwise be transmitted through it. A kettle or pot covered with soot, has the greatest advantage for absorbing heat, and when exposed to a fire, it will raise a liquid contained in it to the boiling point in half the time that a bright polished surface would do, if similarly exposed; and it will cool when withdrawn from the fire, in equally less time. The blackened tea-kettle is, therefore, the proper vessel to heat the water, and the white porcelain, or highly burnished metallic tea-pot, the proper one to maintain it hot for the longest time.

*Buffalo, Feb.*, 1845 R. L. A.

## SHEEP AT THE SOUTH.

YOU say you are desirous of having from me some account of the different flocks of sheep I saw during my hurried trip North. This I have pleasure in giving you; and hurried though my trip was, I saw much that interested me, and particularly connected with sheep matters, such having been the main object of my journey.

Every thinking cotton-grower is fully convinced that too much of that staple is produced. All are anxious to lessen that over-production; but they also feel the absolute need of a substitute that will profitably employ their negroes, and occupy their lands. What this substitute shall be, is the difficult point, and one that will not readily be overcome. The cotton crop affords no time for attending to others; from New Year's day until Christmas, it keeps every hand engaged in its culture incessantly occupied. Like corn, it can only be grown to advantage on good land. Something that will yield a profitable return on the poor and worn parts of our plantations, at the same time admitting of such a system in their cultivation as will improve the soil, and not interfere too much with the main crop, cotton, is what we want. Other *crops*, unless it be oats, millet, and other fodder and grain crops, such as peas, sweet potatoes, and so on, interfere too much with cotton. And though I am of opinion that it could easily be proved that almost any of these, and tobacco, flax seed, castor oil leaf, mustard seed, and many others are, any of them, more profitable than cotton; yet the fact of their occupying such land as the planter would desire to put in his accustomed crop, and requiring considerable labor at those times that it is most needed in the cotton field, will render it difficult to introduce auxiliary crops.

It has always seemed to me that, after employing all the labor we can in home manufactures; in the raising of *heavy* crops of grain so as to supply the home demand, keep work animals fat, and raise and fatten abundance of pork; next to these we could keep *sheep* enough to sell 100 pounds of good wool to the hand—employ a few hands profitably, and so as to have them in the cotton field when most needed—occupy our worn lands to advantage, and, by a little judicious management, bring them back to their original state of fertility. All these would be objects well worth attaining, if practicable; and of this I could very quickly convince you, had I the leisure.

The poorest worn lands of this part of Mississippi will grow Bermuda grass enough to support an average of two of our native sheep to the acre, and will improve each year to such an extent, that within as many years from five to seven head may be kept. Sheep enrich land more rapidly than any other kind of stock; the Spaniards, you know, say that "sheep have golden feet,"—and, in this sense, they certainly have. This grass, too, keeps all it gets of top-dressing, until its sod becomes surprisingly close.

I would by no means wish to be understood as advising any one to abandon the growth of cotton entirely, for that of wool and mutton—unless, indeed, the land has become so much worn as no longer to yield a remunerative crop, and the planter might be inclined and have the means to open another plantation. But I would urge every hill-planter to procure a stock of sheep sufficient to yield say 100 lbs. of wool to the hand—first setting his worn lands in grass, to an extent sufficient for their abundant support.

To satisfy myself as to what kind of sheep would suit us best, was one great object of my journey. That we can grow as fine wool as is produced in any part of the world, I think is certain; though the assertion has been so often made and reiterated, that *in our southern climate the finest wools soon become mere hair*, or at best assume a much coarser character, that even our most intelligent planters have, many of them, taken it as an established fact—when, in truth, it is the mere assertion of your closet philosophers, without a single fact to sustain it. The belief has done much to prevent the growth of fine wool in the South.

It is not, however, necessary that sheep, to be profitable, should be of the fine-wooled breeds. Our native sheep, indifferent as their wool-producing qualities are, give us the finest mutton in the world. They are light-bodied, and long-legged—in my opinion the result in a great measure of their in and in breeding; give us about a pound, not more, of wool about the quality of Southdown, but of a much softer character—much of it closely resembling that imported from Cordova, under the five per cent. duty. Even as they now are, they are profitable; and to render them richly so, all that is needful is to cross them with almost any other breed. You may recollect the very superior samples of wool I showed you, from the lambs of those same naked-bellied ewes, by a superior Merino buck. The Saxony, Southdown, Cotswold and Bakewell, all bring about as great a degree of improvement, though differing in kind perhaps. But I am forgetting the intention of my present writing.

I commenced the handling of your northern flocks at Utica. The exhibition there was a very fair one, though more might well have been expected of the largest sheep-owning State, at her State show. I afterwards saw several of the flocks on their own walks. Of the Merinos exhibited, the ram belonging to the Messrs. Carpenter seemed to me the best animal; his coat was exceedingly close, and must weigh well; and the staple as fine as that of any Merino I ever saw. Mr. Reed Burritt, of Tompkins Co., N. Y., showed some large, finely formed animals, if one might judge of their form under such a coat of wool. Their fleece had not been cut last spring, and though heavy was full of yolk, and not remarkably fine. Mr. Blakeslee's flock is a very superior one; and not only those he himself had there, but the draft from the flock of Col. Sherwood, which originated from Mr. B.'s, attracted, and justly, great attention. Judge Smith, of Woodbury, Conn., had some very superior animals—Saxony-Merinos—being a cross from Mr. Blakeslee's best rams upon a very superior lot of Saxony ewes. It was this flock which first opened my eyes to the foolish prejudice, existing amongst a great many, to this cross; and I afterwards had repeated proofs that the best wool grown in the Union, if not in the world, is borne on the backs of the Saxony-Merino; and that the animals themselves are just as hardy, and nearly, if not quite, as large as any others, producing even moderately fine wool. Judge Smith is daily improving his flock. There were beautiful Saxonies, with their soft, pure, white, clean coats, from Vernon, N. Y.—drafts from the flocks of Messrs. Crocker, Church, and others. Their fleeces, and those of the Saxony-Merinos, will yield more perfectly clean wool than any Merino fleeces I have yet met with, having any claims to equal fineness, which few of them have; and I am fully inclined to believe that they will produce more pounds of wool than any other breed, and perhaps as many of mutton. I saw an excellent communication in the last number of the Quarterly Journal of Agriculture, on this subject, which is taken up in the proper manner. And the writer *may* be correct—that on applying a powerful microscope to fibres of wool from sheep of different breeds, that of the finest Saxonies in the country is found to be but little, if any, less in diameter than that from some of the largest sized Merinos, which to the naked eye seems comparatively coarse. He remarks at the same time, that the (*apparent*) cavity within the fibre is much larger in the Saxony; and adds that it is this, he believes, which gives it its silky lustre and soft feel. Now, in my opinion, it is its silky lustre that causes the appearance of a cavity, where, in fact, none exists, to be greater in this variety. He says nothing of the spiral turns in the fibre, and comparative number and fineness of the serratures, which produce its felting properties, and determines its value to the manufacturer, which last, by the way, is all the *grower* cares for. But I am again forgetting myself.

The only passable Southdowns were a few

shown by Mr. McIntyre; and his, though good, will not rate with some I could show you in this neighborhood. Indeed, I was disappointed throughout in the Southdowns I saw everywhere. The Bakewells, unless I may except two or three very fat wethers, fell far short of my expectation. The Cotswolds, on the other hand, as far exceeded them. With greater size than the Bakewell, and a much more valuable fleece, they seem to me, and I am confident are, animals of much better constitutions; they breed readily and regularly, which the others do not; though I presume the Bakewells will fatten at an earlier age. Mr. Sotham, of Albany, had a small lot of these beautiful and valuable animals, that pleased me exceedingly. At New York I afterwards saw a few from the flock of the Messrs. Hallock, which showed better keep than Mr. Sotham's, and were consequently much larger, and equally fine otherwise.

At Woodbury, Conn., is another flock of very fine animals—that of Mr. Marvin—which he asserts are pure Saxony. The wool is beautiful, nicely washed, and neatly put up and stowed away, waiting for a higher price. He and his neighbors assure me that his flock averages 3½ lbs. per head, of well-washed wool. What flock of pure Merinos, producing wool worth fifty cents per pound, will yield more, washing the wool clean, so as to remove the yolk? At Lowell I met a number of the western Pennsylvania and Virginia growers, with their wool for sale; and in the Messrs. Lawrence's store-rooms I saw a number of the clips of that year. *Much of it is finer than any wool grown north of them*, and was so pronounced by Mr. Lawrence in my presence. The samples I brought with me from Lowell, as also those I took from the backs of the sheep when amongst them, tell the same tale, *and it is all Saxony-Merino*. I cannot now specify the flocks west of the mountains; but enclose you a few loose samples, the growth of western flocks, which you can examine and report upon. They have simply been washed on the sheep's backs. Mr. Aaron Clement, of Philadelphia, showed me some very superior Southdowns and Bakewells, which he had purchased to fill orders—which he makes a business of doing; and I know of no one I would sooner trust with a commission of the kind.

Your northern and eastern sheep-masters charge such prices for their animals as we cannot afford to pay, unless it be for a single ram occasionally. The freight and expenses upon stock brought such a distance are enormous; which, added to the prices asked, will prevent many being sold south or west. The breeders in Pennsylvania and Virginia have caught the lesson from their eastern neighbors, and ask equally exorbitant prices, so high that I came home without buying a hoof. They have all got an idea that the demand is going to be very great, and that it behooves them to charge accordingly. They will spoil their market.

The inquiry of which is the best breed for this latitude, I have discussed at some length in the New Orleans Commercial Times, and regret that want of leisure prevents my saying anything more at this time. Thomas Affleck.

*Ingleside, Miss., 2d December*, 1845.

## AGRICULTURE AND LANDS OF FLORIDA.

While so many farmers are emigrating from the east to the prairie lands and forests of the West, and even to the country whose shores are on the Pacific, it may not be unacceptable to many readers to know the capabilities of this southern land. There exists a very general impression that Florida consists almost entirely of swamps and lowlands, the exhalations arising from which are so destructive to human life as to render the country almost unfit for agricultural purposes. There is unquestionably much lowland, but very many locations can be found where it is high and entirely healthy, even in the summer. The river, St. John's, a wide and noble stream for 50 miles, is navigable for 200 miles from its mouth. For the first 30 or 40 miles, the land on its banks is very sandy, and its natural growth is pine. Such is the climate, however, that even this land is said to be quite productive, and will yield very good cotton, sugar, tobacco, and corn. As you proceed up the river towards Lake George and Monroe, the land becomes better, and there frequently occur rich hummocks, whose fertility is indicated by heavy growths of the cabbage, palm, ash, maple, and wild orange trees. These lands produce excellent sugar, the canes measuring several inches in diameter. At Pilatka, the climate is of a decidedly milder character, and orange trees which have been seriously injured below, have there entirely escaped the injurious effects of the severe weather of the present season. Immediately opposite Pilatka is one of the best orange groves in Florida, and I can imagine few things more beautiful than this collection of some 500 bearing trees. They are planted in rows twenty feet apart, and present a regular symmetrical mass of rich, glossy foliage. This grove, and those above it, have hitherto escaped the ravages of the insect, and the fruit produced is said to be of a remarkably rich and luscious quality. As the river passes into Lake George, there is an island of some 3,000 acres, called Drayton, on which are several fine groves, from which some 50,000 oranges were sent to market the past autumn. This also has thus far escaped the ravages of the insect, which has been so destructive in St. Augustine and other parts of the South.

Lake George is a fine sheet of water, about fifteen miles in diameter. The land on its banks is said to be of good character, but very little is yet taken up. From Lake George to Lake Monroe the river winds beautifully among the hummocks, and is fringed with the elm, the maple, and the alder, now in full leaf and bloom, while an occasional grove of wild oranges or clump of palms lend their novel beauty to the scene. As evening approaches, the tall cypresses become the roosting-place of numerous wild turkeys. They are often of great size, and are scarcely inferior to the domestic ones.

Some 30 miles before you reach Lake Monroe, the boat passes Beresford Lake, a small sheet of water, on which is an old plantation, formerly taken up and cultivated by Lord Beresford, but now deserted and overgrown. Just beyond this is Blue Spring, said to be the gem of Florida. Some 500 yards back from the river, is a very large spring, and a multitude of smaller ones, throwing up to gether a mass of strongly sulphureous water, and forming a little stream some ten feet deep, whose perfectly transparent waters empty into the St. John's. It is filled with fish, which can be seen swimming in every part of it. The banks are some twenty feet above the stream, quite undulating, and covered with palms, live oaks, magnolias, wild oranges, &c. It is altogether one of the prettiest spots that I have seen. Immediately back of Blue Spring is a range of country forty miles in extent, covered with pines, beautifully undulating, and no underbrush whatever. It is covered with a species of crab grass, which is said to make very good pasture. Where this kind of pine land occurs without any undergrowth of palmetto, the land is considered excellent for either sugar or cotton. Having a clay subsoil it can be readily improved, a rare case in Florida, for the land is universally of a sandy nature, and will not hold manure, and must inevitably be worn out in time. A favorite mode of manuring here is to pen cattle upon a certain spot until it is well manured and trampled in. From land thus prepared they sometimes raise 300 to 500 bushels of sweet potatoes to the acre.

Lake Monroe, a fine sheet of water, five miles in diameter, seems to be the spot about which settlers are gathering, and the best lands are fast being taken up. The whole margin of the Lake abounds with mineral springs, and the lands will often produce two to three hogsheads of sugar to the acre. One of the finest spots has been taken up by a gentleman who keeps a boarding-house for invalids. For this purpose the vicinity of Lake Monroe is well adapted, and houses for the accommodation of invalids from the North are going up every year. I have visited most of the West India Islands, South America, and different parts of Europe, and I am convinced, that for pulmonary diseases, there is no climate equal to that of Lake Monroe. This will become more generally known in a few years, and it will perhaps become the great place of resort. The advantages for bathing afforded by the numerous mineral springs (whose temperature is 75°), will render this vicinity very desirable. Living is very cheap there, from the great abundance of game. Turkeys are numerous, and deer are found everywhere. In a ride of 20 miles we saw sixteen of the latter. Steamboats run from Savannah to this place and to Lake Monroe, rendering the latter very accessible.

It has been a matter of surprise to me, that amid all the enterprise for which our countrymen are celebrated, no one has attempted to cultivate and prepare the dried fruits. Figs and grapes both grow luxuriantly here. The labor of preparing them for market is comparatively light, and I cannot but think that if some enterprising man were to establish their cultivation here, and import a first-rate hand from Smyrna to prepare them, he could not fail to reap large profits. The fig produces most abundantly, and its cultivation requires very little labor. There is no reason why we cannot supply our own market with that article of consumption. At present, the attention of all the planters about Lake Monroe is chiefly devoted to the produce of sugar. The labor of planting is about the same as that of corn, it requires cultivating only two or three times during the season, and the roots will produce five years without replanting. The cane can be ground at Taylor's mill, and the sugar made for two to three dollars per hogshead; the expense of putting up mills is thus avoided.

Some gentlemen from the North whose ill health compels them to reside there during the summer, informed me that the heat, although of longer continuance, is not so oppressive as at New York, and the trade winds render it quite pleasant after ten o'clock in the morning. They also say that there is very little fever in the country, although the whites (many of whom have no slaves) expose themselves freely to the sun. If such is the case, settlers could labor here with as much safety as at the West; while, from the genial climate, the reward of labor is much greater. I am of opinion, however, that no settler who wishes to thrive, should employ slaves. Their indolence, and the necessity of supporting the sick, the young, and the aged, would soon ruin him. One good white man would perform as much as three of the ordinary slaves, and among the many emigrants to this country, white laborers can easily be obtained.

One of the most profitable employments and modes of investment in East Florida is the raising of cattle. Intelligent planters inform me, that all their capital so invested yields them at least 20 per cent. annually. There are large tracts of pine lands which produce excellent pasture. A herd will double every three or four years; and the only labor in tending them is to collect them several times a year to keep them from straying too far, and to mark the young calves. When the vacuum process of curing meat shall be fully tested and brought into practical operation, the profits of this branch of business will be greatly increased.

Allowing in the facts that I have stated, a reasonable degree of partiality in my informants for the place of their adoption, I am quite inclined to think that the upper part of St. John's river, and the rich bottoms of the Alachua District, afford many inducements to settlers, who are convinced of the superiority of free to slave labor.

*Jacksonville, E.F., Feb.* 10, 1846. S. B. Parsons.

## SHEEP HUSBANDRY.

After so long a time, I will in some measure fulfil my engagement about writing you in regard to sheep and wool growing. My intention is, and has ever been, to get up a flock that would combine as much as possible the following traits: First, a strong constitution; a heavy fleece of *real wool*, of the very best quality that the world can boast; and a just form. It has been a favorite theory with me, that by judicious selection and good breeding, all this might be effected, and I have for years spared neither time, nor expense, nor travel, to bring it about: and if I have in any good measure effected my object, it has been by selecting according to my best judgment, disregarding entirely all names of breeds, and names of men as breeders, except so far as to examine their flocks carefully, or specimens of them, as they have been exhibited at the shows, or their different lots of wool at numerous manufacturing establishments.

I have never been able to depend in the least upon the statements of men who puff their sheep in the different agricultural papers. Some of them are *extremely ignorant* of the things they write about, and are *deceived* even by their *own experiments*, and do not know when wool is really coarse or fine, whether it is clear, or will waste much in cleansing. Others keep but a few, and give them in that way an extra chance; not knowing, when they publish their statements, that a few sheep on a farm will keep (when almost entirely neglected) in better order, yield more wool, increase faster, and be much less subject to distemper of every kind, than the same animals would be if a farm were fully stocked with them. A few sheep, on a middling good sized farm, may be neglected in summer or winter, almost as much as the deer in the wild forest, and become very large, healthy, and afford monstrous fleeces, from the fact that they have so fine a range; a thing more favorable to sheep than all the care, hay, and grain, that can be given to a large flock. This is applicable to the very finest kinds of sheep, in common with others. This will account for a part of the fine stories we get from some merchants or professional men newly-turned farmers, or other new beginners with sheep, who ascribe their success to something very happy in their treatment, or peculiar in the breed of their stock, and they feel in honor bound not to withhold such light from the world. Others there are who stop at no means that will enable them to sell sheep for breeders at exorbitant prices; these publish accounts of what wool they get from perhaps a *single* buck, giving him some *great name;* fix him out with a pedigree, send a *picture*, not a *portrait*—of him, to some editor [who, in several instances that we could name, is *roundly paid* for his puffing. Ed.], call him a Paular, a Montarco, or some other *Morus multicaulis* name of a breed, to raise an *excitement*, and take the advantage of it, when their flocks are absolutely *contemptible!* I could mention a score of such gentlemen whose flocks I have examined, or whose lots of wool I have seen at Lowell and elsewhere. Others take the advantage of strong popular prejudice known to exist in favor of Merino over Saxony sheep; and knowing that most purchasers judge more by the outward appearance of a sheep than by any correct ideas they have of fleeces, will apply sperm oil, or some other grease, to the outer end of the fleece of a Saxony, or some mongrel of Saxony, Merino, and native stock, and oftener than otherwise, a mean animal of its kind, and sell him for a pure Merino buck. Others breed from Saxony sheep to some extent, to keep up in some measure the quality of their wool, crying down Saxony and crying up Merino sheep all the while, and selling their sheep as pure unmixed Merinos, giving you at the same time a pedigree that, with a little addition, would make an interesting romance! If any one would inquire how to distinguish under such circumstances, I would say the most correct information as to the quality of any man's wool is to be had from the best manufacturing establishments of the country; and, finally, after getting what information can be collected from different large manufacturers, the balance is to be obtained by a careful examination of the flocks so recommended, and a comparison of flock with flock, as to all important traits.

I have lately given to the Albany Cultivator the names of several wool-growers in different parts of the country who do not make much noise themselves in the periodicals, who, notwithstanding, are in my humble judgment entitled to some notice, as well as those who puff their own animals so finely. If persons who are prejudiced against the finer kinds of sheep on account of their being tender and delicate in proportion as they are fine, would select an equal number of the best constitutioned fine sheep, and put them side by side with the best they can obtain of the inferior grades, they would find that a very large share of all the advantage the coarser kinds have over the finest kind, is during the first four weeks after a lamb is dropped.

Some of the best flocks I have ever found in the country (after going over much of it time after time, beginning with Vermont and New Hampshire, and ending with Virginia), are a mixture of Saxony and Merino, where the breeding has been upward, as I call it (for want of a better expression); that is, where the advantage as to quality is on the side of the buck. The getting of really fine sheep in any part of the world is, I believe, the fruit of uncommon pains, nice discrimination, great perseverance, and incessant care; but it will cost nothing to reduce the quality of any breed, but to let it alone. It costs a considerable sum to raise the last stone on some of the monuments in our own country, and some skill, but a very ordinary man for a trifle would get them down.

A few years since Vermont was celebrated for its fine wools; but in the eagerness of sheep-masters for heavy fleeces, they have to a great extent lost their fine sheep. Five or six years downward breeding would entirely change the character of the wools of a whole nation. I have no doubt but an increase in weight of fleece may be effected while the fine quality is retained, and perhaps advanced; but, like every other real improvement, it must cost labor, perseverance, care, time, and skill. I am inclined to believe, that stock from the finest ewes, by a low woolled buck, will generally fall considerably below the average of each ewe, and the buck, as to quality of wool; and I am quite sure that many cases will occur where the stock will not (to say the least) exceed the buck. Such is the downward tendency of almost everything we have to do with. If this view is correct of breeding downward, then all that the ewes exceed the bucks will be nearly or quite lost. If it is best for us in the United States to grow fine wool at all, we ought to be less fickle in our course. European breeders are wonderfully steady and persevering, and whole districts unite as to a particular standard. Witness, the Devon cattle, the Southdown sheep, the Berkshire pigs, &c., &c. JOHN BROWN,

of the firm of Perkins & Brown.

*Akron, Summit Co., Ohio, Feb.* 15, 1846.

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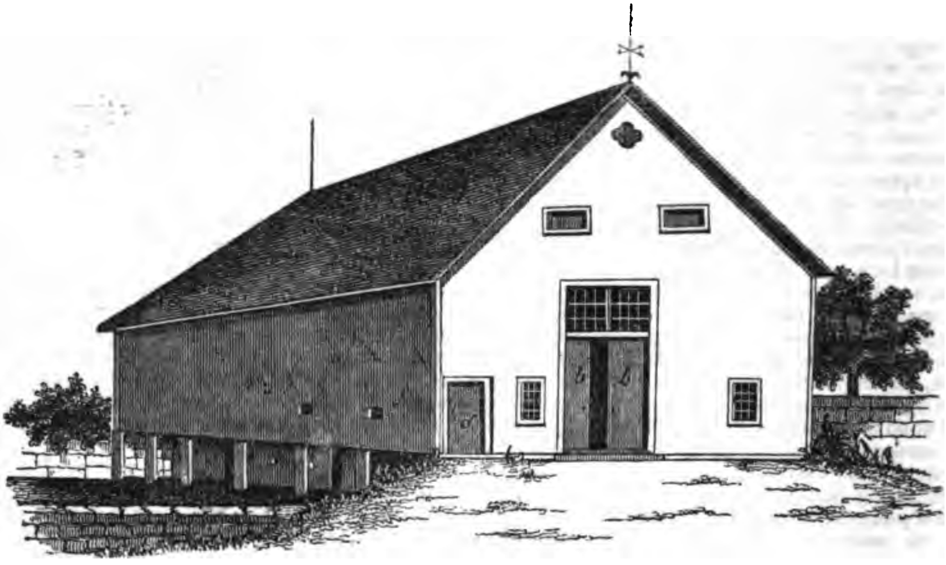
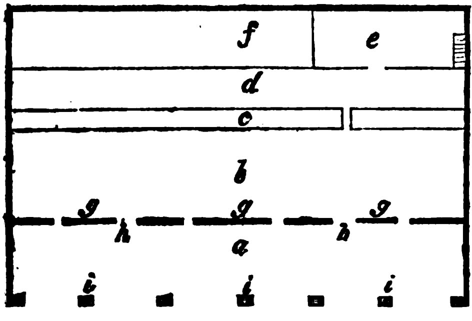
RAISING BEET SEED.—Every year large quantities of beet seed are imported into this country to supply the demands of the farmers. Nothing is more easily grown. Set out choice roots in the spring, the same as for growing turnip or cabbage seed, and they will produce in abundance. For full particulars on this subject see Vol. 2, page 35. The only additional care requisite is, as the branches get large, set small stakes around them in a circle, and tie a cord from stake to stake for their support.

## A MASSACHUSETTS BARN

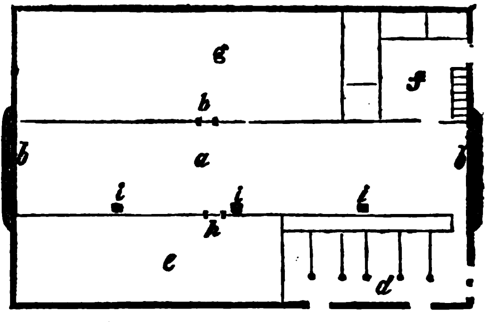
I have been in nearly every State in the Union, and paid considerable attention to their agriculture, and especially the farm buildings; and, after all, I do not know anything in this line superior to the barns of my native State, Old Massachusetts, for the general purposes of the farmer As an admirable example of these, I subjoin a sketch and description of one built by Mr. Cyrus Knox, of Palmer. The ground on the front is on a level with the first story; back and to the side of this it descends, having an open shed, as shown on the left of the sketch, and a basement story



Elevation.—Fig. 34.



Basement.—Fig. 35.



Ground Floor.—Fig. 36.

*Description of Elevation.*—*b b*, Large doors, which open on to the barn floor.

*d*, Stable door.

The windows slide back and forth, for the purpose of ventilation when necessary.

*Description of Ground Floor.*—*a*, Barn floor, 12 feet by 60.

*b b*, Doors hung on iron rods and rollers over head, like the folding doors of the parlors of our modern houses in the cities, opening and closing with equal ease; made of 1¼ inch clean stuff, and battened on the outside with open battens, formed so as to give the doors the appearance of pannel work. The posts on each side of the doors are 14 inches wide, with a piece sawed out of the centre, through which the doors pass. The posts are framed into the sills with a double cock-tenon, to give strength.

*c c*, Stone door sills, 16 feet long by 18 inches wide, with a lip raised on the inside, against which the doors rest, and then slanting with a bevel outward.

*d*, Stable, 12 feet by 24, with fixtures for one pair working horses, and two yoke of oxen.

*e*, Bay, 8 feet high, until it rises above the stable, then it runs the whole length of the barn, 60 feet.

*f*, Store room, 16 feet square, with a flight of stairs leading into the cellar, 8 feet high.

*g*, Bay, 16 feet by 44, until it rises above the ceiling of the store room, then it goes the whole length of the barn, 60 feet.

*h h*, Upright posts framed into timbers above and below, with rungs inserted for ladders, to ascend and descend at pleasure.

*i i i*, Narrow scuttle doors, through which the loam is passed down into the stable below, to cover the hardpan, over which the boards and plank are laid, as described in *b*, of the basement.

*Description of Basement.*—*a*, Open shed, facing east, 12 feet by 60.

*b*, Stable, with windows the whole length, hung with strong strap hinges to open and shut at pleasure; also a window at the south end. The object of so much window is, to throw out the manure, and to ventilate the stable, which is 12 feet by 60. The ground under the stable is a hardpan, over which is placed every summer a layer of loam 6 or 8 inches thick, and carefully levelled. On this, boards are laid lengthwise, some inches apart, and on these boards plank are laid cross-wise. Through the interstices of these the liquid manure runs down, and mixes with the loam, which is thrown out in the spring, and mixed with the manure under the shed, and fresh loam put in place of it, and the boards and plank replaced. This takes but a short time to do.

*c*, Manger, 3 feet wide, made with plank formed into timbers and pinned; not a nail about it, and perfectly tight. Stalls are divided off for two cows or oxen each, to be tied with ropes fastened at each outer corner.

*d*, Open space, 5 feet by 60 feet.

*e*, Cellar, 8 feet by 16, filled with roots in the fall, and supplied from the pits during winter as they are wanted.

*f*, Bay, 8 feet by 34, running up to the roof, 27 feet to the eaves.

*g g g*, A bank of loam the whole length of stable, except against the doors, which are guarded by a narrow plank fixture to keep the loam in its place, which is mixed in small quantities with the manure every morning as the stables are cleared.

*h h*, Stable doors.

*i i i*, Seven stone pillars 10 feet long, standing on flat stones 2 feet under ground, bolted to the sills of the upper story with iron bolts, made of 1¼ inch round rods.

The barn stands upon a strong foundation of stone on the west side; both ends are laid in lime mortar, and well pointed with the same material. The top stones of this foundation are from 10 to 14 feet long, by about a foot square. At the south end, the walls jut out on each side of the barn doors, and the space is filled up with earth between, to make a gradual descent, and the egress easy for an empty cart or wagon to pass out into the adjoining meadow. The outside covering is of clear pine boards, well seasoned, planed, tongued, and grooved together, running up and down, painted, and the roof well shingled, and every part of the work done in the most substantial manner.

*Cost.*—The stone and timber being on Mr. K.'s own land, the whole cost of this barn did not exceed $600, the work of the owner reckoned at the usual rates he paid to other mechanics. The presumption, however, in my own mind is, that if he did not do the work of three men himself, he did and saved what was equivalent to it by personally superintending every stroke; by being up at the early dawn of day with teams all fed, yoked, and harnessed, and every man placed at his proper post the moment he came upon the ground. I make these observations that no one may be disappointed who shall undertake to build a similar barn, hire his builders, stone-cutters, masons, and carpenters, find them plenty of alcohol, while he sits at the neighboring tavern taking into his own stomach copious draughts of the good creature, talking politics, &c., &c., and finds on footing up all his bills that they amount to $1,200. Here is a building which, if kept properly covered and painted, will last a century or upwards.

The yard adjoining on the east, has a fountain of running water brought into it by pipes. A high wall supports the bank on the north side next to the road, which breaks off all northerly winds, and it is intended to be surrounded with sheds on all sides. A Traveller.

## BLIGHT IN PEAR TREES.

I have been an attentive reader of your paper for three years, and have received much valuable information from it. You have only heard from me as I have forwarded my yearly subscription. At this time I thought I would offer some remarks on the blight in the pear tree, and under-draining of land, from personal observation.

In vol. 3, page 321, your correspondent has expressed his opinion that the blight is a disease of the bark, and not of the wood in the pear tree, and that the remedy is found in cutting off the bark, and washing with strong ley from wood ashes. I am convinced that his theory is correct, for the following reasons:

About twenty years since, I came to this place and located myself as a farmer. At the time, there was a nursery of young pear trees in the neighborhood, which was soon divided among the lovers of good fruit: these trees have mostly been destroyed by the blight. Some were planted on a farm which I have since purchased. When I came into the occupancy of it, there was one so large that I did not think best to remove it for fear of destroying the tree; the other was removed and planted in a very different soil. The tree that remained soon showed signs of blight. I went and cut off the limbs which were affected. The next season, directly after it had put forth its foliage, the disease made its appearance again. I now resolved to cut the diseased part of the tree away at all events. I commenced with cutting as I supposed low enough; but cutting the same limb several times, I found the bark defective in most instances. The bark on the flourishing limbs was apparently healthy; but, on examining the bark on the body of the tree, I found it entirely dead; there was not a green spot in going round the tree, for I took the entire bark off about six inches in width, and yet that tree produced a good harvest of fruit; one of the pears weighed 20 oz. The tree never leafed again, but sprouted from the root.

Now the examination of the above case was satisfactory evidence to me that the diseased part of the tree was the bark, and not the wood; but for the remedy I am indebted to your correspondent above alluded to. Although I have not been troubled with the disease since—perhaps from the fact that I have occasionally washed my trees with the remedy proposed; but I do not attribute it to that altogether. It is my opinion that the pear flourishes best in a moist soil. What has led me to the conclusion is this; the trees which I first planted from the nursery above mentioned, were planted in a soil mostly composed of loam and water, found in digging from 6 to 8 feet deep, while the tree I have just described was on a soil composed of sand intermixed with gravel, to the depth of certainly 12 feet, as found by digging—how much deeper it ran I know not. It has been a matter worthy of observation to me, that, almost invariably, the trees on the driest land have been destroyed. One of my neighbors has quite a number of trees which are planted on loam underlaid with clay. These have suffered much from the disease. He is making vigorous efforts to restore them, by pruning and digging a trench in circular form, about 4 feet from the trunk of the tree, and, during the heat of summer, filling it with water daily. Whether he succeeds or not, is yet to be known.

Doctor W, —— of this place, who has taken some pains and been at some trouble to procure a choice selection of the best kinds of fruits, observed to me that his pears were going to be destroyed by the blight, and wanted to know if I had seen any proposed remedy which I considered efficacious. I then related the method as proposed by your correspondent as above alluded to, in connection with my own observation on the subject, and gave it as my opinion that it would restore the trees to health and vigor. He concurred in the opinion, and last spring cut off the affected limbs, shaved off the bark, washed with the ley, and is of the opinion that he has restored his trees. This summer will probably decide the experiment.

I have found this article so long that I shall omit saying anything on the subject of under-draining till another time. L. W. Hitchcock.

*Tallmadge, Summit Co, Ohio, Feb. 20, 1846.*

## GARDENING.—No. 2.

Having thus very briefly contemplated the progress of this art, from its introduction to the present time, allow me here, to give a few short sketches of gardens, garden-like cemeteries, and public walks, in various parts of the world, and at various times of their history.

The most celebrated gardens in very ancient times were those of the kings of Assyria and Babylon. The form of these gardens was square; and, according to Diodorus and Strabo, each side was four hundred feet in length. They were made to rise with terraces, in the form of steps. They were in the vicinity of the river Euphrates, from which they were supplied with water. These terraces contained fountains, parterres, seats, and banqueting rooms, with an almost endless variety of fruit, flowers, and plants of ornament; it was in fact a combination of all the splendor and luxury of Eastern magnificence, with the simple pleasures of beautiful and verdant nature. So surprising and laborious was this undertaking, that the ancients classed it with the various "Wonders of the World."

Many gardens belonging to Jewish princes and subjects are mentioned in Holy Writ. The principal one was King Solomon's, the form of which was quadrangular and surrounded by a high wall. Solomon says: "I made me gardens and paradises, and I planted in them all kinds of fruit trees. I made me pools of water, to water with them the groves flourishing with trees." (*Eccles.* ii. 5.)

The cemeteries of the Jews may be considered as a species of garden. We find that Abraham buried Sarah in a field "bordered with trees." The sepulchre of Jesus was in a garden; and from various other data it is clear, that with all who could afford it among the Jews, the place of burial was not only sacred, from its use, but interesting or beautiful from being accompanied by some striking or agreeable natural feature.

The grove of Orontes is thus described by Gibbon, in his Decline and Fall of the Roman Empire. "It was composed of laurels and cypress, which formed in the most sultry summers a cool and impenetrable shade. A thousand streams of the purest water issuing from every hill, preserved the verdure of the earth, and the temperature of the air; the senses were gratified with harmonious sounds and aromatic odors; and the peaceful grove was consecrated to health and joy, to luxury and love."

An account of the gardens of the Emperor Nero is thus given by Tacitus in his Annals. "Moreover Nero turned the ruins of his country to his private advantage, and built a house, the ornaments of which were, not miracles of gems and gold, now usual in vulgar luxuries, but lawns and lakes, and after the manner of a desert; here groves, and there open spaces and prospects; the masters and centurions being Severus and Celer, whose genius and boldness could attempt by art what nature had denied, and deceive with princely force."

In Lombardy, the gardens of Monza and of the Isola Bella are the most noted.

In speaking of the Isola Bella, Wilson says: "Nothing can be so noble as the conversion of a barren rock, without an inch of earth on its surface, into a palace of fertility and luxury. This rock in 1640 produced nothing but mosses and lichens: when Vitaliano Borromeo conceived the idea of turning it into a garden of fruits and flowers. For this purpose, he brought earth from the banks of the lake, and built ten terraces on arches, one above the other, to the top of the island on which the palace is placed. This labor has produced a most singular pyramid of exotics and other plants, which make a fine show, and constitute the chief ornament of this miracle of artificial beauty." All travellers do not, however, agree with Wilson in the above description; for Hazlitt remarks, that he was "utterly disappointed in the Borromean Isles. Isola Bella resembles a pyramid of sweetmeats ornamented with green festoons and flowers."

"Extensive gardens of pots and boxes are common on the roofs of the palaces and other houses in Naples. Viewed from the streets they have a singular effect; and, retaining their beauty and fragrance from the fresh breezes in these elevated regions, and the comparative absence of that stench with which the lower atmosphere of Naples is almost continually charged, they are very agreeable to the possessors." (*Loudon.*)

M. Seterveldt's garden, near Utrecht, is a carefully preserved specimen of the Ancient Dutch style of villa gardens. Here the grand divisions of the garden are made by tall, thick hedges of beech, hornbeam, and oak, and the lesser by yew and box. There are avenue walks and berçeau walks, verdant houses, rustic seats, canals, ponds, grottoes, statues, and other devices; and everything has its exact counterpart, and the often quoted couplet of Pope, "Grove nods at grove," &c., is nowhere better exemplified.

The gardens round Rotterdam are generally many feet below the level of the canal. On the Cingle, a public road which surrounds the city, are a continued series of garden-houses, nearly a mile in extent; these miniature villas being separated from each other only by wooden partitions, which are generally neatly painted "To these the citizens with their wives retire on Sunday, to smoke and take coffee." (*Neill.*)

Notices of gardens in France previous to the 16th century, are rare; but at the end of this century, Francis I. built the palace of Fontainbleau, and introduced there some traits of the Italian gardening.

In the beginning of the 17th century, Hirschfeld observes, that the gardens of France consisted only of a few trees and flowers, some plots of turf and pieces of water; and the whole totally devoid of taste, and completely wild and neglected.

The gardens of Versailles, the grand effort of Le Nôtre, and the model of excellence in the geometric school, are thus noticed by different writers. "Not as models of taste, but as models of a particular class or character of gardening." (*Hirschfeld.*) "The sum of everything that has been done in gardening." (*Bradley.*) "When I reflect on Versailles only, and what I have seen there, I cannot but think that I had a foretaste of Paradise: all my senses were struck with astonishment; and though I have the whole represented in fine prints, it is only a shadow of what was so naturally figured there." (*G. A. Agricola.*) "Such symmetry is not for solitude." (*Lord Byron.*)

The gardens of St. Cloud are less celebrated than those of Versailles, but at the present day are considered more beautiful. At St. Cloud, nature and art are struggling for the mastery; whereas, at Versailles, art is everything. "The fountain at St. Cloud, which is called the *Grand Jet*, from its amazing elevation, and from its delightfully retired situation, is one of the most beautiful of the kind in Europe. It is formed of a single *jet*, which shoots up from the centre of a quadrangular reservoir, to the height of one hundred feet. The gardens of St. Cloud abound in fountains; but this simple *jet* cannot fail to be preferred before all the fantastical designs of the grand cascade." (*Batty.*)

There are numerous small town-gardens in Paris, and many houses, as in Italy, have gardens of pots on their roofs. The public gardens and promenades of France are very numerous, and well arranged. The mildness of the climate makes the people enjoy passing much of their time in the open air, and their social disposition inclines them to congregate together. Public gardens and promenades thus become necessary appendages to every town in France.

Garden cemeteries are not uncommon in France, the most celebrated of which is called the Cemetery of *Père la Chaise.* It contains about 70 acres of land, and was originally owned by a Jesuit, named Père la Chaise, who was the confessor of Louis XIV., and from whom the cemetery takes its name. It was first used as a burial-place in the year 1804; between that time and 1832, it is said that nearly 30,000 monuments have been erected in it.

In Granville's Travels in Russia, we find the following: "The Strelna road lies to the north of the capital; and an uninterrupted line of sumptuous palaces, built in every variety of chaste, fanciful, and imitative architecture, flanks the right side of it; while, on the left, fields, with many clumps of trees and brushwood, separate it from the gulf. Most of the country residences belonging to the nobility and gentry of St. Petersburgh, have gardens and pleasure grounds in front of and around them. In front of the gardens, and immediately on the border of the road, a lofty post bears inscribed on a small square board the name and rank of the proprietors."

In general, extent, exotics, and magnificent artificial decorations, are more the objects of gardening in Russia, than scenes merely of picturesque beauty. This is accounted for, partly from the general want of refinement of taste in that country, and partly from its inaptitude for the natural style. The nobles of Russia, rendered aware of being distanced in point of civilisation by those of most other European countries, are resolved not only to imitate, but even to surpass them in the display of wealth. The most obvious marks of distinction, in refined countries, are necessarily first singled out by rude and ambitious minds, and large magnificent houses and gardens are desired, rather than comfortable and elegant apartments, and beautiful or picturesque scenes; since, as every one knows, it is much more easy to display riches than to possess taste; to strike by what is grand, than to charm by what is beautiful.

The first private botanic garden in Russia was that of General Demidof, begun during Peter the Great's reign. In order to fill this garden, two botanists were sent to travel over the whole of Asiatic Russia. "One single anecdote will prove how eager Demidof was to enrich his garden. Being at Rome in 1773, he found in the garden of the Petits Augustins del Corso, the handsomest orange tree he had ever seen. The monks did not wish to part with it, and he was obliged to employ a great deal of money and influence to overcome their scruples. Having succeeded, he caused the tree, which was planted in the open air, to be taken up with an immense ball, put in a large box, set on a carriage made on purpose, and transported to Moscow." (*Deleuze.*)

In Spain, horticulture, although now practised with very little attention to art, is of the highest antiquity. The study of plants was introduced into Spain and Portugal by the Arabs; and there was a considerable collection of plants at Seville early in the 11th century. The succeeding seven centuries present a blank, and the taste shown for botany in Spain and Portugal declined with the sciences; and that country where they had been cultivated, when the rest of Europe was in a state of barbarism, appeared to sink into apathy, after having shone with the greatest splendor under Charles the Fifth of Spain and Emanuel of Portugal.

The oldest garden in Spain is said to be that of the Moorish palace of Alcazar, near Seville. "The outside of the Alcazar is miserable in its appearance; but the first court after entering the gate has a very grand effect. The courts are ornamented with marble fountains, and are well shaded with corridors, supported by marble pillars. The garden is said to have been laid out by the Moors, and is preserved in its original state. It contains walks paved with marble, and parterres laid out with evergreens and shaded with orange trees. In many parts of it there are baths, supplied by marble fountains from an aqueduct, and there is a contrivance for rendering the walks one continued fountain, by forcing up small streams of water from minute pipes, in the joinings of the slabs, which, in this climate, produces a most grateful effect." (*Jacob.*)

"El Retiro, the seat of Count Villalcazar, lies a few miles from Malaga, and was formerly a royal residence. The gardens are laid out in the Moorish style, with straight cypress walks. They are remarkable for the lakes, fountains, and beautiful water-works which they contain, the curious shapes into which the trees and shrubs are cut, and the great variety of flowers cultivated." (*Loudon.*)

L. T. Talbot.

## FAT HEIFERS.

In February last, Mr. Clift showed and sold in New York two very superior fat heifers; one was four and-a-half years old, weighing 1,670 lbs. live weight; the other, three years old, coming four, weighing 1,610 lbs. The oldest was bred by Mr. Clift; the other, and the better, was bred in Western New York. Both were *high grade* Short-Horns. Their quarters alone weighed nearly 2,000 lbs. They did great credit to Mr. Clift's feeding. Their *dead proof* was admirable, as their *living handling* indicated. The following is Mr. C.'s statement of their feeding.

*Carmel, Putnam Co., N.Y.*

My method of feeding these heifers was as follows: They were both in what we call good strong flesh to begin with, when turned out to pasture last spring; they had previously, for about one week, four quarts of cob and corn meal a day each. After running the usual time at grass, or it may be a little earlier, on account of the drought which prevailed throughout the season, I commenced to give them a sheaf of oats each, and a feed of green corn daily; this was continued until the time of green corn was over; this was followed by only one feed of meal per day, oats and corn, and sometimes buckwheat, mixed in about equal quantities, and never to exceed eight quarts to each heifer, a day. This, it may be said, was pretty light feeding as respects grain, and especially in an attempt to make very fat or extra animals.

But what I conceive to have been the greatest aid or benefit in the laying on the flesh of these heifers was, that during the time they were on hay, they were well protected by shelter, and had clean litter, and the privilege at all times of going to a mow of the choicest fine sheep hay, such as I cut on my old upland meadows early in the month of June, and had put up as green as possible.

I could write a longa rticle on the great importance of having the proper grass, and making out of it the right sort of hay, for the fattening of sheep and cattle, and for cows giving milk, &c. Every observing farmer ought to know at least, that for such stock, in order to have them do well and make a profitable return in any given time, their hay should be of a superior quality, and such as they will eat readily. Doubtless, in all profitable feeding of sheep and cattle, for the shambles, some kind of grain and roots should be fed *regularly* and *daily*. But all the grain given them, with *hay* that they will not eat with good appetite, will fall far short of making them what they may be made, in feeding less grain and the right sort of hay. Another thing is, as they advance in flesh and fatness, the more delicate and dainty are they in the choice of food, and the more clean should be what is given to them. It is true that I obtained less for the heifers in market than I had anticipated, viz., only $190, or about $9.50 cts. per cwt. Their live weight was 1,670 and 1,610 lbs., and the butcher who slaughtered them, informed me, that their quarters weighed 1,988 lbs.

L. D. Clift.

## EXPERIMENTS WITH GUANO.

As the time approaches to determine what manures shall be used for spring crops, I take the liberty of sending you what I know of the effects of guano the past season. It is little to be sure; but as I feel much better satisfied of its value than before this experience, perhaps it may have the same effect upon others. At least one-half of the experiments I have seen tried have failed, and the experimenters heartily discouraged and frightened from further use of it; not by any fault of the manure, but from want of care in using it.

The most favorable results, as yet, have been with wheat, applied both at the time of sowing and in spring. In most cases it has been sown broadcast, in a pure state, without being mixed, and consequently liable to great loss by evaporation, unless the soil by chance contained something capable of retaining the gases. I presume in this way its effect will not be seen for more than one or two crops, and will give rise to the opinion that it will not last.

Experiments on corn have not done as well. In some cases, half a gill has been thrown on the crop, and but slightly mixed by the planter, the corn carelessly dropped and covered; there most of it lies still, for aught I know: one thing is certain, not more than half of it has yet made its appearance above ground. In other instances, it has been mixed with rich earth, or coal ashes, just before using, in proportion of two or three times its bulk, amounting to about the same thing as not being mixed at all, so far as preventing the grain from germinating is concerned; these all shared the same fate as the first. No one complains of its effect on what did get above ground; in fact it is admitted to do good above most manures of the same value; but then for this crop it is considered a kind of kill or cure medicine, which they are not over anxious to try except in desperate cases. I do not know one instance in which the application has been made in a way to receive the full benefit of its action, not excepting the small experiments made by myself.

I bought a few hundred pounds last spring without much faith, and with small hope of getting my money back, which was rather lessened than increased by the tough stories I had read of its astonishing effects: it seemed to require something in addition to its own merits to make it sell. You may suppose, and it is the case, that, under the circumstances, I was not over particular in using it.

On the 1st of April I mixed a quantity with damp coal ashes, which immediately caused such an escape of gas as my eyes and nose never before met with from manure (*a*). This began to give me a better opinion of my guano, and although I was well aware some of the best of it was fast departing, I felt glad of it, for it was some satisfaction to know from experience that it was formed of such material. I immediately spread some of the mixture over a piece of winter wheat, on the poorest gravelly hill in the field, at the rate of 180 pounds of guano to the acre. I thought if it would show itself there, it would anywhere. For grass it was used in the same way. For corn, mixed the same, and put in the hills, at the rate of 300 lbs. guano per acre.

As the experiments were not commenced with a view to test its value minutely, none of the crops were measured; but from a careful examination at harvest, I think the wheat was increased *one-half*, and the straw lengthened some six or eight inches, over that adjoining on the same kind of soil. The heads were well filled, indicating heavy weight of grain; whilst their neighbors stood erect as if waiting for a further supply. The increased growth of the grass was very perceptible in ten days after the application, and the crop of hay increased at least *one-third*.

The corn, although not more than two-thirds of it came up, was better than any adjoining, treated with same value of poudrette, ashes, and sugar-house dirt, all of which, from previous experience, I hold in high estimation. On some rows near I tried some urine, which has surpassed either of the others; but as I did not know its cost, could not ascertain its comparative value. I obtained enough for an acre in return for a little work and an outlay of 50 cents; and plenty of it may be had on most farms at the same rate.

I do not anticipate lasting effects from these applications of guano, from its not being properly mixed before sowing, and then used as a top-dressing (except on corn) on a loose soil, with everything to facilitate the speedy evaporation of its soluble parts, and little to prevent it; it would be singular if it proved beneficial for a longer time. I gave half a handful to some hills of corn when they were about 18 inches high, but saw no effect.

To sum all up, I have no doubt of its importance as a manure, more valuable than any in general use, requiring only a few judicious applications to bring it into the good graces of even old-fashioned farmers We look to you as head master for directions (*b*). Issue the order, we will obey, only don't talk about too small quantities, we are not accustomed to that in this land of moss bankers and muscles. D. K. Y.

*Syopeth* (late Oyster Bay), *Long Island.*

(*a*) By reference to our March number, page 76, line 22, and on, our correspondent will see that by mixing ashes or lime with guano, it rapidly expels the ammonia, the most valuable part of it. It was this which so affected his "eyes and nose" as he speaks of above.

(*b*) Our correspondent had not our last number when he wrote the above article. In that he will find the requisite directions.

## POLLED CATTLE.

I MUST ask the favor of you, to look out at your leisure, for the polled dairy cattle for me. It is not desirable that they be large. My own observation satisfies me that large breeds usually are not as rich and copious milkers in proportion to size, as small breeds. An inquiry in your paper might lead to the discovery of the desired stock. Color is also unimportant, though red or roan is preferred. Whether foreign, grade, or native, is immaterial. The only requisites are to be *polled*, with *high dairy qualifications*, and good form and constitution.

We have a good many polled cattle in this region, usually small, some of which are called *here* good milkers. I have three of them, which, if fat, would weigh only about 450 nett—that is, 112½ per quarter. In the height of the milking season, upon clover pasture, they will yield each 16 to 20 quarts daily. Is this good milking in proportion to size? [Yes; very good indeed. ED.] How does it compare with your best dairy stock at the North, not forgetting their small size? [The comparison is highly favorable to the South; we have few such good animals at the North, we regret to say.] From such material as these three cows, can I reasonably hope to breed a tribe of polled cattle valuable for dairy purposes? [Yes; if put to a bull bred from a good milking strain.] Your answers fully, and in detail, to these interrogatories, will materially oblige me. It is very important, as you know, to start in breeding with the right sort of stock. G. W. J.

*Milton, N.C., Feb.*, 1846.

Can any of our readers inform us where we can procure polled cows, which are not only themselves good milkers, but have been bred from milking ancestors? We would also like a bull or two at a moderate price. We were always greatly in favor of polled cattle, as the horn is of very little use. It consumes considerable food to make it grow, and keep up its waste. Besides, horned cattle are dangerous to themselves and to men. They cannot be packed in yarding, in stable, or in transportation, as close as the polled cattle, nor are they so easily handled in any position. Why, then, should we cultivate the horn? Some contend that a horned animal is the handsomest. Why, we know not. To our taste *utility is beauty* in growing the domestic animals. If we were keeping sheep, we would soon have a flock of Saxons and Merinos without horns.

But to cattle again. How long and how often must we ask the farmers of this country to pay more attention to the dairy qualities of their cows? How few, in breeding, ever regard this point, or indeed *any point at all!* Pray do awake to your interests, and take some pains in this matter. When asked to purchase good milking cows (which we frequently are), we scarcely know where to look for them, except among the high-priced Durhams. This is disgraceful to the country, and shows an apathy in breeding good milkers, among the great body of our farmers, which is really astonishing.

## TO KEEP NEW LANDS IN GRASS.

As I have spent the best of my days in the woods, this is the first time I have attempted to write. You will not expect much of me; but as others have had something to say of their country in your columns, why not I? The people of Western Pennsylvania are very much engaged in the business of lumbering. Our forests present a formidable growth, some of the pine trees of which are from 4 to 5 feet in diameter, and from 120 to 150 feet high—some declare there are individual trees 200 feet high. These are intermixed with a sturdy growth of beech and maple, and most other kinds of timber peculiar to our country—consequently, there is chopping and logging for boys to do here before they can go to farming. And that is not all, there are some stumps and roots in the way after this; but sometimes we get good crops of potatoes, corn, wheat, and oats, and we sometimes get good grass; and we want to know what is the best way to keep those grasses in, for they frequently run out before the stumps and roots get sufficiently rotted so that we can break up with the plow to advantage (*a*). What are the best manures we can get here, seeing lime is high, and a considerable distance off to haul it; and plaster the same, only $7 to $10 per ton; and your guano and poudrette are still farther off (*b*). Our soil is generally a sandy loam—in some places a gravelly loam.

I should like to keep my farm in grass as much as I could at present, and clear for grain every year, as my stock increases faster than my pastures and meadows. I should like to have some of your choice implements and farming tools here to try experiments with; also some of your Merino sheep and Short-horned cattle, to draw logs with, and see if they would outdraw my Bakewell steers; and, finally, Mr. Editor, please to give us all the information you can how to manage our farms and stock in this new country. A Young Farmer.

(*a*) We have had considerable experience in clearing and cropping forest lands, and the best method we found to keep in the grass was, as soon as it began to run out, to let the first growth of the season go to seed, and when the seed was ripe, roll down the grass with a roller. The second growth also should not be disturbed, and if any bare spots show themselves in the month of August, or the following spring, harrow them, then sow grass seed and roll. The *fog* or dead grass would be rather in the way of mowing the next year, we therefore should prefer pasturing it, and mowing the succeeding years. By this system the land lies idle one year; but this gives it an excellent opportunity to re-seed and manure itself; and considering the low price of land in all new countries, it is the best and cheapest plan we know of. Another method is, to harrow the bare places the moment the frost is sufficiently out of the ground to do so in the spring, sow grass seed plentifully upon them, then sow plaster over the whole field at the rate of three bushels per acre, and as soon as the grass gets up to a good bite, turn the cattle upon it, and keep them there the whole season. In the fall of the year go over the field with dung beetles and beat the droppings of the cattle fine, and in doing so, distribute them as evenly as possible. Follow this course two years, and the meadows will usually produce good crops of hay again.

(*b*) Ashes are usually cheap in a new country, and these, whether leached or unleached, should be carefully saved and applied broadcast upon the land, at the rate of 20 to 30 bushels per acre. There is no better top-dressing for grass lands. Lime or plaster may be applied when cheap. As to other manures, they are usually too costly to think of in a new country.

For further particulars on the subject of cultivating newly cleared lands, we refer our correspondent to Vol. 3 of the Agriculturist, pages 3 and 174.

## HOOD'S BALANCE GATE.

The inventor of this gate having felt the inconvenience and danger connected with the ordinary road gates, arising from the necessity of getting out of the carriage and leaving the horses, to open the gate, and again, after leading them through, being obliged to return and shut it, thereby exposing his vehicle to be run away with, gave his mind to the subject, and the result was the plan of the above gate, which he now submits to those interested, and as entirely adapted to obviate this danger and trouble; besides, being a complete protection against the inroads of cattle, as it will be seen, by examining the principle, that a carriage cannot pass through without leaving it closed. The gate has been in use now for twelve months; never been out of order, and on no occasion has it failed to answer the purpose intended; and it can be made very ornamental as well as useful.

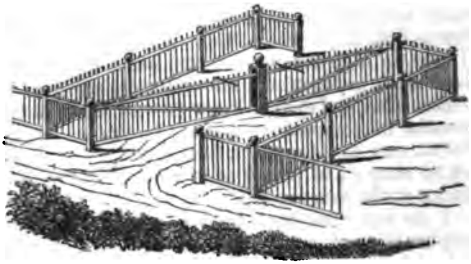


Fig. 34.

The gate is hung on a centre, and surrounded by a fence as represented by the drawing, and may be either square or oval, according to fancy, with two openings of the ordinary width, with posts furnished with catches, to receive the latches at the end of the gate; these latches are moved by either of the handles placed on the top-rail of the gate, about 4 feet from the centre post.

It will be observed on reference to the sketch, that the gate is always open for the admission of carriages, for ingress or egress. The driver comes up to the handles farthest from the opening he entered by, he unfastens the latches, and, by a slight push, he sends the gate to the opposite post, when, by the impetus given to it, it fastens itself, and he then can drive on without moving from his seat.

A model can be seen at the Agricultural Warehouse of A. B. Allen, No. 187 Water Street, and inquiries answered.

The gate is always to be seen at the entrance to the farm of the inventor, Andrew Hood.

*Westfield, Staten Island, N.Y.*

## Ladies' Department.

### THE GARDEN.—No. 2.

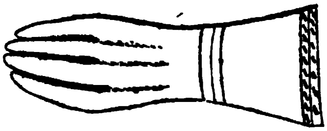
Now up and away, country lassies, fair and brown; wrap your shawls about you, and we will soon find out what is to be got ready for our summer campaign. First, we will loosen the wrappers about the tender shrubs; stir the top-dressing of the borders; rake the grass plots, and the leaves that have gathered under the bushes, and then all will look neat and ready for the next warm rain. The seed-box must be inspected, and supplied with such as failed of the last year's crop; the labels must be taken out, and rewritten; the props and small ladders for everlasting pea and other shoot vines must be neatly re-painted—of *course* they were *mended* last autumn, and put carefully away—it is rather too late to have new ones made now, when one is almost ready to use them. Among the first spring work in the garden, the last trimming should now be done, as shrubs are liable to be much injured, or even killed, by being trimmed when the sap is in full flow, and the leaf buds expanded.

As I shall have very little to say about gardening for some months, I must not omit here to warn the ladies of one plague which will mar the beauty of their choicest plants, unless timely care be taken to prevent it. I mean the snails, or slugs, as they are more properly called, which are so destructive to vegetation, that I have known in a wet season, when more numerous than usual, every plant in the garden defaced by them, and scarcely a leaf escaped their ravages. But however disagreeable it may be to have one's flowers devoured so unceremoniously, it is a mere trifle compared to the horror of the risk one runs of *eating* the depredators boiled in the spinage, or turning up a fine fat one on the lettuce, while dressing it at dinner. Bah! the very thought is enough to make one eschew vegetable food for the rest of the season. Yet I have seen both happen at a well-ordered table! The war should begin in the autumn, and every snail be destroyed as soon as found; they then congregate in numbers just below the surface of the ground, around posts, trees, and shrubs, as well as under flower pots; in short, wherever they can find a secure, damp lodging for the winter. If they are cleared well from these hiding-places, and killed, they will hardly become so numerous as to be very troublesome the next season.

Every one must have noticed, when at work in the spring, little clusters of bluish-white globules, almost transparent, under the little clods of earth on the beds and borders; these are the eggs, which are deposited in April and May, and are easily destroyed, if thrown out where the sun will shine upon them.

An excellent way to capture those that have escaped the vigilant eye of the gardener in the early part of the season is, to spread cabbage, or any other thick leaves, about the plant you wish to protect, and examine them while the dew is on in the morning—for even snail-hunting requires early rising. They will be covered with them. Dip the leaves in water, and the snails will fall instantly to the bottom; but as they do not easily drown, care must be taken not to throw the water on the ground, nor let it stand unnoticed too long, or they will crawl away, and go to work again as merrily as ever! Another method, equally effective, and much more convenient, as it will entrap them during the day—but stop—I must not go quite so fast—my fair friends will pardon me for keeping this a profound secret, lest I should be suspected of doing anything to encourage lazy habits, after all the homilies I have written upon the advantages of early rising.

A lady's dress should always be adapted to her employment, and is of more importance in the garden than she perhaps is aware of. The material must be strong, or it will be rent to tatters in the shrubbery; plain in color, or it will too soon show dirt; without trimming, and short, or it will always be in the way, and look untidy. Summer winds are hard upon the complexion, therefore, her neck and throat will be covered by the deep cape of her garden bonnet; and if she will try the advantages of thick, wash leather gloves, with a broad stiff cuff to protect the hands and wrists from the sun and briars, she will wonder how she ever did without them.



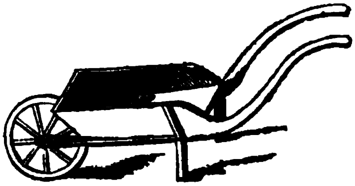
GARDEN GLOVE.—FIG. 38.

Her shoes—shall I give a drawing of one of them also? Dear Mr. Editor—it must come out—but I tremble for the effect of my next paragraph—how *can* I recommend gum elastic shoes to young ladies, who perhaps pride themselves upon being like her whose

> ——"feet beneath her petticoats,  
> Like little mice stole in and out,  
> As if they feared the light."

"Little mice," indeed! Why, a lady's feet, cased in high gum shoes, are as ugly as black puddings, or young walruses; and, as to fearing the light, they seem to have such an undue sense of their own importance, that it is almost impossible to hide them. I believe the least said upon this ugly subject is best; but if the girls have not discretion enough to wear them, they had better give up working before breakfast; which is the only time I can, with a safe conscience, advise them to devote to it.

She must also have her own tools, and attend to them herself; always rub, clean, and put them in their own place, as soon as she has done with them. A lady's spade should be about half the usual width, with a handle as light as is consistent with strength; two trowels, of different sizes, with the sides sharp and turned inwards, so as to take up small plants without disturbing the earth about the roots; a small iron rake; a hoe; a pruning knife; a pair of scissors, so contrived, as to hold the flower after it has been severed from the stem; and a basket to receive the weeds as fast as they are pulled up. In addition to these, which are absolutely indispensable, she ought to have a small light wheelbarrow, with long handles, curving upwards, which, by throwing the weight principally upon the wheel, is moved with much more facility than those with long, straight handles; does not strain the shoulders so much, and is better suited to a woman's dress, as she is not obliged to bend the body so much forward, which throws the skirt upon the ground, and puts her every moment in danger of being *tripped up*, and having her *nose broken*.



LADIES' WHEELBARROW.—FIG. 39.

With this supply of tools, a lady can trim her shrubbery, transplant and weed with great comfort to herself, and advantage to the garden. E. S.

## COUNTRY SCHOOLS.

PERMIT me to make a brief reply to the article on Country Schools, in your February number, in which your correspondent, S. H. R., having, as I think, misunderstood me, expresses her dissent from my opinions, and intimates her belief that, on more mature deliberation, I shall find reason to alter my views. As she has done my communication for December the honor to notice it at some length, it would be discourteous not to thank her for the trouble she has taken to correct what she thinks my errors; and to assure her, that without changing my opinions as there expressed, I agree entirely with her on most points of this very important subject. I would, however, request her to re-peruse my remarks, and I think she will then see that, instead of differing so widely as she at present apprehends, we are occupying the same ground, on which she proposes to take a step in advance of me in ascending the hill of science.

I spoke of the *present general* incompetency of the teachers of our public schools, and the consequent necessity for private instruction; while your fair correspondent, with commendable *esprit de corps*, proposes that a prior step be taken, by "increasing the number of those who are now obtaining, in the Normal Schools," the desired requisites for teachers. This, at least tacitly, admits the truth of my position, that all our schools are *not yet* supplied with well educated teachers, and hence the necessity for increasing the number of students who are candidates for the office—in this I agree entirely with S. H. R.; and moreover, as I have great confidence in the wisdom and ability of my New York and Eastern neighbors, I am willing to have all the aspirants educated in the schools she so warmly recommends, until we, lazy Southrons, shall have public spirit enough to establish such for ourselves.

I would have the number of good schools, private and public, increased until every child in the country should have the opportunity of learning everything which can make him or her shine in the sphere of life in which he or she is placed; for, in exact proportion to the increase of *good* schools, will be the value placed by the community upon education; and when we shall have four times the present number, all supplied with competent and conscientious teachers, then, but not till then, I shall think the necessity for private instruction *materially* lessened.

Again, I spoke of the *general* unwillingness of farmers to pay schoolmasters. S. H. R. thinks that those who are qualified for the task should "receive an adequate compensation." Certainly they ought to be amply paid for imparting the knowledge they have acquired; but first, we must try to remove the stumbling-block, and make these farmers willing to open their purses. For this evil, my ingenuity can devise no remedy which would not be worse than the disease.

I honestly trust her fears are groundless, that "the irresistible effect" of the adoption of my plan "would be effectually to destroy the public schools," as I believe there are comparatively very few parents who would withdraw their children from the care of such teachers as S. H. R. predicts "every district school in the State" will at no distant time be supplied with—"thoroughly impressed with the responsible duties of their station—intellectually and morally prepared for their discharge—and capable of training the expanding minds of our youth in every department of science, from the lowest to the highest."

I, however, retain my belief, that all the combined advantages of a public course of instruction cannot compensate for the evils which must result to the pure minds of children, from the daily contact with numbers—and therefore, *for girls especially*, I still advise maternal care, and under parental inspection, a good governess. S. H. R. will also find that I did not allude to *wealthy* parents, when I recommended a union of two or three families to employ and pay a private teacher. Those of my friends who have made the experiment most successfully, are neither able to give their children an expensive education, nor have they the time to spare from the never-ending duties of plain farmers' wives, to attend as they fain would do, to the instruction of their little ones.

I cordially thank S. H. R., for her invitation to visit the Normal School of which she speaks so highly, but, alas! my crest is a snail in its shell, with the motto, "I cannot leave home." I have therefore little hope of being at liberty to indulge in such an excursive pleasure, as such a visit would afford me; but as I am, with characteristic haste, maturing a plan for casting my shell, and *creeping** to the Falls of St. Anthony, exploring the Mammoth Cave, and perhaps taking some views from nature among the Rocky Mountains, I do not despair of being able so to arrange it, that I may find Albany in my route thither, or on my return. E. S.

*Eutawah*

TO TAKE THE SMELL OF PAINT FROM ROOMS.—Let three or four broad tubs, each containing about eight gallons of water, and one ounce of vitriolic acid, be placed in the new painted room, near the wainscot; this water will absorb and retain the effluvia from the paint in three days, but the water should be renewed each day during that time.

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* Aye, *when* I *go*, I mean to *creep*, for, truly, I love not railroads, except through an often-travelled country—one might as well mount upon the wings of the wind, to fly with the next flock of wild geese or passenger pigeons, and take "a bird's eye view" of the wonders of nature and art, as to whirl over the ground behind a huge cauldron of boiling water!

## FOREIGN AGRICULTURAL NEWS.

By the steam ship Hibernia, we are in receipt of our foreign journals up to March 4th.

MARKETS.—*Ashes* were neglected. *Cotton* quite firm, with a speculative feeling; some fluctuations during February and March, but it had settled down to about the same rates as ruled per our last. *Flour* dull. *Beef* an improved demand. *Pork* in little request. *Lard* has fallen. *Cheese* little doing. *Guano* advancing and in good demand. *Naval stores* in moderate request. *Rice* much wanted. *Seeds* have advanced. *Tobacco* steady. *Wool* the same.

*Money.*—The rate of interest had slightly declined since our last, and the money market was considered easier.

*The Weather* was very mild throughout February, so much so as to push the wheat forward and endanger its being injured by March frosts, should they fall heavily.

*The Corn Laws.*—Sir Robert Peel will undoubtedly be able to get these odious laws repealed in due time.

*Cholera among Cattle.*—A violent disease is raging among the cattle of Russia, similar in every respect to the cholera.

*Prices at which Grain can be grown in England.*—Wheat, 4s. 10¼d. the bushel, or 69s. the quarter; barley, 2s. 10¼d., or 22s. 10d. per quarter; and oats 2s. 3½d. per bushel, or 18s. 4d. per quarter, including rent and all other charges.

*Indian Corn.*—Father Matthew and other benevolent persons are making exertions to introduce the use of Indian corn in Ireland and Great Britain, in bread, cake, and pudding, as used in the United States.

*To Destroy Gooseberry Caterpillars.*—I destroy these by shaking them from the trees, then by tying a piece of Cabbage-leaf around the stem of tree with a circle of gas tar upon it. This prevents the caterpillars from again ascending, and when without food they soon perish.—*Far. Herald.*

*To Preserve Potatoes.*—I am happy to state that all which were packed in charred sawdust, charred old tan, and other refuse, as well as those packed in dry turf-ashes, are as sound and free from disease as could be wished; they are dry, mealy, and fine flavored; but those that were pitted or packed in the usual way have rotted wholesale, and the effluvia arising from them is very unpleasant.—*Ib.*

*German Farming.*—Agriculture is improving rapidly in some districts of this part of Germany, particularly in the neighborhood of those towns which have much trade with England in grain, and the consequence is that the land is now raising in value. I know of instances where, within the last twenty years, the value of land has been increased to more than double. But there is still great room for improvement. The land is farmed, for the most part, by proprietors whose properties vary from three to thousands of acres, according to the districts in which they are situated. In some localities the farms are all small, in which case the farm buildings are all collected in villages. Sometimes as many as seven or eight compose a village. Farms of this description are to be found near the towns, which they supply with milk. The farm-house and offices are generally connected and under the same roof. This building is oblong, with roofs at the gables as well as at the sides. One end is devoted to the dwelling-house, before which is a patch of ground very neatly laid out as a kitchen and flower garden. The kitchen fire is often on the outside of the wall, which divides the farmer's rooms from the rest of the building, which is tenanted by the cows on the one side, and the horses on the other, and the carts and implements are placed between them; while at the end are large folding doors, which close in all the farmer's movable property. But the generality of the farms are large, and possessed and farmed by a most respectable class of men, many of whom are men of education; and they are all distinguished for their great kindness and hospitality. The house on such farms is quite separate from the offices, and is surrounded generally by an extensive garden. The offices are in the form of a square, inclosing an area in the middle for the accumulation of the manure. They consist of byre, stable, and sheep-shed, grain-shed—for all the grain is kept in houses instead of stacks—and servants' houses. The buildings are often erected according to the most approved principles for convenience and comfort to the animals. The sheep are always kept up in the winter, when they get potatoes and hay, and the greater part of the summer, when they got clover Some of these sheds are very large, capable of containing 1500 sheep. There is a walk made along the side of one of the walls, and the area between it and the other wall is divided into compartments, by means of railings, designed to hold a certain number of sheep; each of these divisions is furnished with a rack for the hay and clover, and troughs for ground food: and a small gate leads from the side walk to each division, so the keeper can supply the different lots with food, and inspect them without much trouble or disturbance to the whole flock.—*Journal of Ag.*

*Advantages of Mixing Soils.*—I may mention that in improving land I found that *mixing of different soils*, and giving them a stimulus, is the most effectual mode of improvement. For example: after draining mossy soil, I found the ground too soft to bear the tread of horses; and a hillock of gravel being near at hand, I spread three or four inches of it over the moss, and after ploughing, gave the ground first dung, and the following year lime. The produce was great, and the land has since produced superior grass.—*Scot. Far.*

*Double Culture.*—There is nothing new in growing two crops together and at the same time; we have in our island followed that system with success, ever since I can remember, and that is upwards of thirty years. For instance, when we grow a parsnip crop, which we find advantageous as food for our milch cows, as it makes both milk and butter, sweet, rich, and good, we dibble beans in double rows, the beans four inches apart, with an interval of six or eight feet to the next rows, after which we sow the parsnip-seed, harrow it, &c., and we generally reap a good crop of each. The crop of beans does not seem to injure in the least the parsnip crop. We generally grow beans with our spring and late cabbage crops. In every third row of cabbages we dibble beans between each cabbage. We often follow the same system with our crop of potatoes—dibble beans between the sets in every third row of potatoes, leaving a distance of about two yards between each bean. The beans seem to thrive amazingly by this manner of planting, and the main crops are not in the least injured by it. By this system the farmer is greatly benefited, having at the same time an underground and top crop.

*To Ascertain the Value of Cows for the Production of Cream.*—Provide a number of half-pint white glass phials, corresponding with the number of Cows in the dairy; label and number them consecutively, 1, 2, 3, &c., and the cows to correspond. Fill each phial with the first milk of the Cow bearing the same number; note down the quantity of milk each cow gives. After the milk has stood in the phials about 12 hours, the eye can readily discriminate the amount of cream that each produces, which mark down by sixteenths of inches. Pursue the same plan at the next milking about the middle of the time of milking, and again a third time at the latter end of milking. The quality may thus be easily ascertained.—*Far. Herald.*

# Editor's Table.

The American Herd Book.—Mr. L. F. Allen informs us, that he has the Herd Book now in press, and that it will probably be ready for delivery the last of May. It has been kept back on account of the tardiness of breeders in furnishing their pedigrees. In addition to these, it will contain a history of Short-Horns, and general remarks on the breeding and rearing of cattle. It will make a volume of about 200 pages octavo.

The Farmer's Dictionary. A Vocabulary of technical terms, and Compendium of Practical Farming. Edited by D. P. Gardner, M.D. Pp. 876, and some 400 wood cuts, for $1.50. Harper & Brothers, 82 Cliff Street. It gives us much pleasure to find that this useful book is at last published; nearly two years ago we alluded to the undertaking as calculated to be of great service. Dr. G. has devoted great pains to this favorite engagement, and is at once a theoretical and practical farmer. This work consists of two parts.—A Dictionary of the scientific terms, as ammonia, nitrogen, eremacausis, &c., which we plain farmers find so plentifully besprinkled in modern essays, and which being new words, are sometimes rather awkward to get over. The other part is made up of practical essays on the cultivation of crops. In this division we see with great pleasure that the staples of the Mediterranean, such as olives, madder, liquorice, poppies, &c., are treated of, and also tea, rhubarb for the druggist, and numerous important products, which can certainly be cultivated in the extent of our territory, reaching, as it does, to the Rio Grande and Pacific. These essays are from the very best authorities, as Rham, Low, Loudon, and the great authors of Agriculture. In Veterinary matters and Grazing, as well as Horticulture, we find the most satisfactory matter. These two parts are not kept separate, but mixed in the dictionary form.

There is a peculiar feature in the book, altogether new, and we believe important. After each plant, the editor has placed the best account of the composition of the ashes, and made some observations on the particular manures suited to the crop. Now this is the peculiarity of the new or Chemical Agriculture, by an examination of the ash of plants, to discover the means of applying the proper manure at the least expense. So, if we find that lime or common salt is all important to a certain crop, we use it, and are saved the great expense of adding a compost containing every fertilizer. This part of the book is very worthy of study, and from our knowledge of the author and his scientific reputation, we do not hesitate to say it is well done. It seems to us that the work is one which will be very valuable to the practical man, from the numerous practical suggestions it contains; to the theoretical farmer, because it is full of information on manures, saline bodies, organic matters, &c.; and also to the general reader, because it presents a fund of information on Agriculture and Horticulture, in a compact form, which cannot otherwise be procured without the use of a large library. Few books we believe have ever been published in Agriculture so useful and so well adapted to the particular wants of the community. It is a handsome volume, printed in clear brevier type, and marvellously cheap. Every farmer should get it, to place on the same shelf with his Agriculturist. We have it for sale at our warehouse.

Observations on the Potato, and a Remedy for the Potato Plague.—This is an elegant octavo pamphlet of 110 pages, by Charles P. Besson. Published by E. L. Pratt, Boston, Price 25 cents. It contains a history of the Potato, its Cultivation, and Uses, as well as a Treatise on the late malady, so injuriously affecting it in this country and in Europe. The work is written with no little research and ability, and comes before us opportunely. We bespeak for it an attentive perusal, for on the safety of this crop the lives of millions are dependant, and unless the disease be stayed, the consequences will be want, suffering, and death.

The Naturalist, and Journal of Agriculture, Horticulture, Education, and Literature, conducted by I. N. Loomis, J. Eichbaum, J. S. Fowler, and T. Fanning. At Franklin College, Tennessee. In monthly numbers of 48 pages, octavo. Price $2 a year in advance. This periodical is the successor of the Tennessee Agriculturist, and we hail the issue of it with great pleasure. It is conducted by the President and Professors of the Agricultural College at Franklin. Its papers treat of the science and practice of agriculture, and are written with clearness, simplicity, and ability. We have faith to believe that this work will ultimately exercise a happy influence in the great Mississippi valley, and we trust it will immediately find a generous support. A specimen number can be seen at our office in Water Street, where we will gladly receive subscriptions and forward them to the publishers.

The Life and Times of Henry Clay. By Calvin Colton. Published by A. S. Barnes & Co., 51 John Street, N.Y. Two volumes, octavo. Price $5. However much people may differ in regard to the character of Mr. Clay as an orator and politician, none will deny that he is an eminent farmer, and has ever been foremost in promoting the interests of the great agricultural class. Few have done more for the introduction and growth of hemp in the West than Mr. Clay; and it is now not only extensively consumed at home in the different manufactures of bale rope, cotton bagging, cordage, &c., but has at length become quite an article of export to Great Britain. He has also been equally efficient in the importation and the improvement of the various breeds of domestic animals, as we had the pleasure of seeing for ourselves, when we visited his beautiful estate at Ashland—and this, by the way, we found a pattern farm under a high state of cultivation. These volumes are embellished with a spirited portrait of Mr. Clay, and an engraving of the humble log school-house at the Slashes of Hanover, where he received the first rudiments of his education. It is a pretty delicate thing to write the biography of a living man; yet, so far as we can judge, Mr. Colton has done it with great fairness, and in his usual attractive and condensed style. We dismiss these elegant volumes, by agreeing with him when he says: "The man who leaves his impress on a great nation, and imparts character to the age in which he lives, not only merits the regard of contemporaries, but will be a study for future generations. That Henry Clay occupies this position in the social state of mankind, by a consideration of the past, and in the prospects of the future, will scarcely be questioned. His name, character, and history, are identified with the history of his country; and the student who makes himself acquainted with his life, private, professional, and public, will not be ignorant of the career of the United States of North America, as one of the family of nations."

A Treatise on Domestic Economy. For the use of young ladies at Home and at School. By Miss Catharine Beecher. A newly revised edition, with numerous illustrative engravings, pp. 369, octavo. Price 75 cents. Harper & Brothers. This is a highly useful work, as it has been written expressly for American ladies by one of the most eminent of their own sex. We wish they would study it faithfully, for it is calculated alike to improve them, mentally and physically. Of the latter point there is great need.

# New York State Agricultural Society.

*Cattle Show and Fair for* 1846, *to be held at Auburn, Sept.* 15, 16, *and* 17.

## PREMIUM LIST FOR 1846.

### ON FARMS.

For the best cultivated farm of not less than 50 acres, exclusive of woodland, regard being had to the quantity of produce, the manner and expense of cultivation, and the profits:

First premium,..............$50 | Second do.,..................$30
Third do.,..........................$20

The persons making application for these premiums, must submit written answers to a series of questions, printed copies of which may be obtained on application to J. B. Nott, Secretary.

### EXPERIMENTS AND ESSAYS.

| | |
|---|---|
| For the most satisfactory experiment of stall feeding cattle, with a full detail of all the circumstances,.............. | $20 |
| For the most satisfactory experiment in converting green crops or other vegetable matters into manure, with full details, &c...................................... | 10 |
| For the most satisfactory experiment made for increasing manures in forming compost,.......................... | 10 |
| For the most satisfactory experiment for top dressing grass, | 10 |
| " " " subsoil plowing,......... | 10 |
| " " " eradicating Can. thistle,.. | 10 |
| " " " draining,................. | 10 |
| " " " irrigation................ | 10 |
| " " " on the improvement of seed wheat, by culture and propagation,............... | 10 |

### FARM DWELLINGS.

For the best design accompanied with plans and elevation, combining convenience, economy, and good taste.

For best,.....................$15 | Second best,.............$10

Competitors for the premiums on Experiments and Designs, must forward their manuscripts to the Secretary, Albany, previous to the 1st of December, 1846, free of postage.

### CATTLE.

#### CLASS I.—Durhams.

Best Bull, over 3 years old,.$15 | Second best,...............$10
Third best, Diploma.
Best bull, 2 years old......$10 | Second best,....Colman's Tour.
Third best, Diploma.
Best yearling bull,.........$10 | Second best,....Colman's Tour.
Third best, Diploma.
Best bull calf,..Colman's Tour. | Second best,..........Diploma.
Best cow, 3 years old,......$15 | Second best,...............$10
Third best, Diploma.
Best heifer, 2 years old,....$10 | Second best,....Colman's Tour.
Third best, Diploma.
Best yearling heifer,.......$10 | Second best,....Colman's Tour.
Third best, Diploma.
Best heifer calf, Colman's Tour. | Second best,.........Diploma.

#### CLASS II.—Herefords.

| | | | |
|---|---|---|---|
| Best bull, over 3 years old,. | $15 | Best cow.................. | $15 |
| Second best,.............. | 10 | Second best,.............. | 10 |
| Best bull between 1 and 3 years old,............... | 10 | Best heifer between 1 and 3 years old,............... | 10 |
| Second best,......... | Diploma. | Second best,.......... | Diploma. |

#### CLASS III.—Devons.

| | | | |
|---|---|---|---|
| Best bull, 3 years old...... | $15 | Best cow,................. | $15 |
| Second best,.............. | 10 | Second best............... | 10 |
| Best bull, between 1 and 3 years old,............... | 10 | Best heifer, between 1 and 3 years old,.............. | 10 |
| Second best,......... | Diploma. | Second best,.......... | Diploma. |

#### CLASS IV.—Ayrshires.

| | | | |
|---|---|---|---|
| Best bull, over 3 years old,. | $15 | Best cow,................. | $15 |
| Second best,.............. | 10 | Second best,.............. | 10 |
| Best bull, between 1 and 3 years old,............... | 10 | Best heifer, between 1 and 3 years old,.............. | 10 |
| Second best,......... | Diploma. | Second best,.......... | Diploma. |

#### CLASS V.—Crosses of Native and Improved.

| | | | |
|---|---|---|---|
| Best cow, over 3 years old,. | $15 | Third best, two years old, heifer,.......... | Vol. Trans. |
| Second best,............. | 10 | Best yearling heifer,........ | $5 |
| Third best,........ | Vol. Trans. | Second best,.... | Colman's Tour. |
| Best 2 year old heifer,..... | 15 | | |
| Second best,............. | 10 | Third best,......... | Vol. Trans. |

Best heifer calf, Colman's Tour.

#### CLASS VI.—Native Cattle.

| | | | |
|---|---|---|---|
| Best cow, over 3 years old,. | $15 | Third best, 2 year old heifer,. | $5 |
| Second best,............. | 10 | Best yearling heifer,........ | 5 |
| Third best,......... | Vol. Trans. | Second best,.... | Colman's Tour |
| Best heifer, 2 years old,.... | 15 | Third best,......... | Vol. Trans. |
| Second best,............. | 10 | Best heifer calf, | Colman's Tour. |

### WORKING OXEN.

| | | | |
|---|---|---|---|
| Best team of 20 yoke from any one Co.,............ | $25 | Third best yoke,.... | Vol. Trans. |
| Second best,.............. | 15 | Best 10 yoke of oxen from any one town,.......... | $20 |
| Best yoke of oxen,.......... | 15 | Second best,............. | 20 |
| Second best,............... | 10 | Third best,..... | Colman's Tour. |

### THREE YEAR OLD STEERS.

Best yoke,................$10 | Second best,................$5
Third best, Diploma.
Best team of 10 yoke from any one county,....$15.

To boys between the ages of 16 and 20 inclusive, who shall exhibit the best broke yoke of 3 year old steers, of their own training, Colman's Tour.

Second best do.,......Diploma. | Third best do.,....Transactions

### TWO YEAR OLD STEERS.

Best yoke,................$10 | Second best,....Colman's Tour.
Third best, Vol. Trans.

To boys under 16 years of age who shall exhibit the best broke yoke of 2 year old steers of their own training, Col. Tour.

Second best,.........Diploma. | Third best,.........Vol. Trans.

### YEARLING STEERS.

Best yoke,.................$8 | Second best,....Colman's Tour.
Third best, Vol. Trans.

To boys under 16 years of age who shall exhibit the best broke yoke of yearling steers of their own training, Colman's Tour.

Second best,.........Diploma. | Third best,.........Vol. Trans.

In awarding the premiums on working oxen and steers, the single teams will be subjected to a trial on a loaded cart or wagon, under the direction of the committee; and particular reference will be had to the matching, training, and docility of the animals, as well as their general appearance.

### FAT CATTLE AND FAT SHEEP.

Best pair fat oxen.........$15 | Second best,................$10
Third best, Colman's Tour.
Best ox or steer,...........$10 | Second best,.................$5
Third best, Vol. Trans.
Best fat cow or heifer,.....$10 | Second best,.................$5
Third best, Vol. Trans.

A fat ox taking a premium as one of a pair, cannot compete singly for another premium.

Best fat sheep,............$10 | Second best,...Colman's Tour.
Third best, Vol. Trans.

Applicants for the premiums on fat cattle and sheep, must furnish statements of the manner of feeding the animals, and the kind, quantity, and cost of the food.

### STALLIONS.

#### CLASS I—*for all work.*

| | | | |
|---|---|---|---|
| Best, over 4 years old,...... | $10 | Third best,........... | Diploma |
| Second best,.............. | 5 | Fourth best,....... | Vol. Trans |

#### CLASS II—*Blood.*

| | | | |
|---|---|---|---|
| Best, over 4 years old...... | $10 | Third best,........... | Diploma. |
| Second best,.............. | 5 | Fourth best,....... | Vol. Trans. |

#### CLASS III—*Draught.*

| | | | |
|---|---|---|---|
| Best, over 4 years old,..... | $10 | Third best,........... | Diploma. |
| Second best,.............. | 5 | Fourth best,........ | Vol. Trans. |

### THREE YEAR OLD STALLIONS.

| | | | |
|---|---|---|---|
| Best 3 years old stallion,... | $10 | Third best,........... | Diploma. |
| Second best,.............. | 5 | Fourth best,........ | Vol. Trans. |

### GELDINGS.

Best gelding,...............$5 | Second best,........Vol. Trans.

### MATCHED HORSES.

Best pair,.................$10 | Second,..............Diploma.
Third best, 2 Vols. Trans.

### MARES.

Best brood mare (with foal at her foot), for all work, $10.
Second best,...............$5 | Third,...............Diploma.
Fourth, Vol. Transactions.
Best brood blood mare (with foal at her foot), $10.
Second best,...............$5 | Third,...............Diploma.
Fourth, Vol. Transactions.
Best brood draught mare (with foal at her foot), $10.
Second best,...............$5 | Third,...............Diploma.
Fourth, Vol. Transactions.
Best mare, 3 years old,......$5 | Second best,.........Diploma.
Third, Vol. Transactions.

### SHEEP.

#### CLASS I.—Long Woolled.

| | | | |
|---|---|---|---|
| Best buck,................ | $8 | Best 5 ewes,.............. | $6 |
| Second best,... | Colman's Tour. | Second best,.... | Colman's Tour. |
| Third best,.......... | Diploma. | Third best,.......... | Diploma. |

Best pen 5 lambs, $5.

### CLASS II.—Middle Woolled.

Best buck,....................$8
Second best,...Colman's Tour.
Third best,............Diploma.

Best 5 ewes,..................$8
Second best,....Colman's Tour.
Third best,............Diploma.

Best pen 5 lambs, $5.

This class includes the Southdown, Norfolk, Dorset, Native, &c.

### CLASS III.—Merinos and their Grades.

Best buck......................$8
Second best,...Colman's Tour.
Third best,............Diploma.

Best five ewes,...............$8
Second best,....Colman's Tour
Third best,............Diploma.

Best pen 5 lambs, $5.

This class includes all those generally denominated Merinos, whether of pure or mixed blood.

### CLASS IV.—Saxons and their Grades.

Best buck,....................$8
Second best,...Colman's Tour.
Third best,............Diploma.

Best five ewes,...............$8
Second best,....Colman's Tour.
Third best,............Diploma.

Best pen 5 lambs, $5.

This class includes all those generally denominated Saxons, whether of pure or mixed blood.

### SWINE.

Best boar, over 10 months,.$10
Second best,...Colman's Tour.
Third best,..........Diploma.

Best sow,.....................$10
Second best,....Colman's Tour.
Third best,...........Diploma.

Best lot of pigs under 10 months, not less than four in number, Colman's Tour. Second best, Diploma.

In awarding premiums on hogs, reference will be had not merely to size or present condition, but to that proportion between bone and meat which promises the greatest value from the least amount of feed.

### POULTRY.

For the best lot of Dorking fowls, not less than 3, one cock and two hens,..............................................$3
For the best lot of Black Poland, not less than three,.......... 3
For the best lot of large fowls, not less than three,............ 3
For the best pair of ducks,..$3 | For the best pair of turkeys,.. 3
For the best pair of geese,............................................ 3
For the best and greatest variety of barn yard fowls owned by the exhibitor,............................................ 10

### FARM IMPLEMENTS.

Best plow,*.......Silver Medal
Second do.,............Diploma.
Third do.,...........Vol. Trans.
Best subsoil plow, Silver Medal
Second do.,............Diploma.
Third do.,...Vol. Transactions.
Best farm wagon, Silver Medal.
Second do.,............Diploma.
Third do.,....Vol. Transactions.
Best harrow,......Silver Medal.
Best cultivator,...Silver Medal.
Best fanning mill, Silver Medal.
Second do.,............Diploma.
Third do.,...Vol. Transactions.
Best horse power,.Silver Medal.
Second do.,............Diploma.
Third do.,...Vol. Transactions.
Best corn stalk cutter, Sil. Med.
Second do.,............Diploma.
Third do.,...........Vol. Trans.
Best threshing machine, Silver Medal.
Second do.,............Diploma.
Third do.,...Vol. Transactions.
Best drill barrow,.....Diploma.
Best straw cutter,.Silver Medal.

2d best straw cutter,..Diploma.
Third do.,.... Vol. Transactions.
Best corn and cob crusher,..$10
Second do.,............Diploma.
Third do.,...Vol. Transactions.
Best clover machine,........$10
Second do.,............Diploma.
Third do.,...Vol. Transactions.
Best flax and hemp dresser,.$10
Second do.,............Diploma.
Third do.,...Vol. Transactions.
Best horse cart,.......Diploma.
Best ox cart,.............do....
Best horse rake,..........do....
Best ox yoke,.............do....
Best farm harness,.......do....
Best saddle,.............do ...
Best grain cradle,.......do ..
Best six hand rakes,.....do....
Best six hay forks,...... do....
Best six grass scythes,...do....
Best six cradle scythes,..do....
Best six dung forks,.....do....
Best six axes,............do....
Best six hoes,............do....
Best hay rigging.............$5

* The trial of plows will take place on Tuesday, Sept. 15th.

For the best and most numerous collection of agricultural implements,................................................$10
Also, for the best and most numerous collection of agricultural implements manufactured in the State of New York, by or under the supervision of the exhibitor,..............Silver Medal.

### PLOWING MATCH.

First premium,.............$15
Second do.,................ 12

Third premium,.............$10
Fourth do.,.....Colman's Tour.

Fifth, Vol. Transactions.

For boys under eighteen years of age:

First premium,............$10 | Second,.........................$5

Third, Vol. Transactions.

One-fourth of an acre will be required to be plowed within an hour and a quarter, with 15 minutes for rest—the furrow slice to be not over 12 inches wide, nor less than 8 inches in depth. The plowman to drive his own team, and the furrow slice to remain as left by the plow.

### BUTTER.

For the best lot (quality as well as quantity considered) made from five cows, in 30 successive days—25 lbs of the butter to be exhibited, $25.
Second best,...............$15 | Third best,.................$10

Compliance with the following rules will be strictly required of those who compete for these premiums, viz.: The cows to be fed on pasture, green corn-stalk fodder, or grass cut for the purpose, only. No grain, roots or slops of any description, to be fed during the trial, nor for fifteen days preceding the trial. The cows to be owned by the competitors previous to the 1st day of Febr., 1846. The milk drawn from the cows on some one day during the trial to be accurately weighed and measured, and the result stated. A sample of at least 25 lbs. of the butter so made to be exhibited at the fair at Auburn, for the inspection of the examining committee. The particular breed of the cows to be stated, if known, and the method of making and preserving the butter. A certificate signed by the owners of the cows, and at least one other person who assisted in milking and making the butter, detailing the above particulars, will be required.

The executive committee believe that few, if any, premiums offered on neat cattle will result in greater benefit to the farming interest, than those on the products of the dairy, providing fixed rules, requiring uniformity of feed, be faithfully enforced. The increased list of premiums is offered with the hope it will induce extensive competition throughout the State. Let this object be accomplished, and an opinion approximating to accuracy may be formed by the public which of the several breeds of cows are the best for dairy purposes, and from those that prove the best, further improvement may be made.

Best 25 lbs. made in June,..$10
Second best,....Colman's Tour.
Third best,..Vol. Transactions.
Best 50 lbs. made at any time $15

Second best,...Colman's Tour.
Third best,.......Silver Medal.
Fourth best,..........Diploma.
Fifth best,...Vol. Transactions.

The claimants for premiums must state in writing the time when it was made; the number of cows kept on the farm; the mode of keeping; the treatment of the cream and milk before churning; the mode of churning winter and summer; the method of freeing the butter from the milk; the quantity and kind of salt used; whether saltpetre or any other substances have been employed.

The butter offered for premiums must be presented in butter tubs, jars, or firkins.

### CHEESE.

One year old and over.

Best 100 lbs.,...............$15
Second best,...Colman's Tour.

Third best,.......Silver Medal.
Fourth do.,...........Diploma.

Fifth do., Vol. Transactions.

Less than one year old.

Best 100 lbs.,...............$15
Second best,...Colman's Tour.

Third best,.......Silver Medal.
Fourth do.,...........Diploma.

Fifth do., Vol. Transactions.

Those who present cheese for the premiums offered, must state in writing the time when it was made; the number of cows kept; whether the cheese was made from one, two, or more milkings; whether any addition is made of cream; the quantity of rennet used, and the mode of preparing it; the mode of pressure, and the treatment of cheese afterwards.

### DAIRIES.

For the best cheese dairy,..$50 | Second best,................$30

Third best, $20.

B. P. Johnson, of Rome, Oneida county, Chairman.

For the best butter dairy, $25 | Second do.,.$15 | Third do.,.$10

Zadoc Pratt, of Prattsville, Chairman.

The competitors for the above premiums must comply with the following regulations. They must state the actual product of the cheese or butter dairy; the locality of such dairy in latitude; the composition of the soil as near as may be where the dairy farm is situated; the kind of grass used for pasture and for hay; the quantity, in pounds, of milk per cow on the average and in the aggregate; the quantity of cheese or butter to the hundred pounds of milk produced; the gross quantity of milk and cheese, or butter, produced; the quality of the cheese or butter; the method of making; the breed of cows composing the dairy; and all such other details produced as shall determine the most profitable mode of conducting the cheese or butter dairy business.

### SUGAR.

Best 25 lbs. maple sugar,...$10
Second best,.................. 5

Third best............Diploma.
Fourth best,........Vol. Trans.

For the best 25 pounds of Cornstalk sugar, Silver Medal.

No premium to be awarded unless the sample offered shall be deemed worthy of it.

The process of manufacture and clarifying must be particularly stated in reference to the maple and cornstalk sugar.

### SILK.

Best specimen manufactured (woven into cloth or ribbons)......................$15
Second best,.................. 10
Third best,.....Colman's Tour.
Fourth best,.......Vol. Trans.
Best specimen not less than one pound reeled silk,.....$5
Second best,..........Diploma.
Third best,.........Vol. Trans.

Best specimen sewing silk, not less than one pound, of domestic growth,............$10
Second best,.................. 5
Third best,............Diploma.
Fourth best,........Vol. Trans.
Best one-half bushel cocoons, 1846,.........................$10
Second best,...Colman's Tour.
Third best,............Diploma

## DOMESTIC MANUFACTURES.

Best woollen blankets, $5—Second, 4—Third, 3.
Best ten yards flannel, $5—Second, 4—Third, 3.
Best ten yards woollen cloth, $5 Second, 4—Third, 3.
Best woollen carpet, $5—Second, 4—Third, 3.
Best tow cloth, 15 yards, $3—Second, Diploma.
Best ten yards linen, $5—Second, 4—Third, 3.
Best ten yards linen diaper, $5—Second, 4—Third, 3.
Best hearth rug, $5—Second, 4—Third, 3—Fourth, 2—Fifth. Trans—Sixth, Diploma.
Best ten yards kersey, $3—Second, 2—Third, Trans.
Best rag carpet, 15 yards, $3—Second, 3—Third, Trans.
Best double carpet coverlet, $4—Second, 3—Third, 2—Fourth Trans.
Best pair woollen knit stockings, $2—Second, Trans.—Third, Diploma.
Best wove woollen' stockings, $2—Second, Trans.—Third, Diploma.
Best cotton wove stockings, $2—Second, Vol. Trans.—Third, Diploma.
Best lb. of linen sewing thread, $2—Second, Trans.—Third, Diploma.
Best linen woven stockings, $2—Second, Tr.—Third, Dip.
Best linen knit stockings, $2—Second, Trans.—Third, Dip.
Best knit cotton stockings, $2—Second, Trans.—Third, Dip.

Best bed quilt, or other bed or window furniture, discretionary premiums, at the option of the committee.

## FRUIT.

For the greatest variety table apples, $5
For the second greatest,....$3 | For the third greatest,..Vol. Tr,
For the best twelve sorts, not less than three of each, $3.
Best new seedling apple,..............................$3
For the greatest variety of table pears,..................3
For the second greatest,........................Vol. Trans.
For the greatest variety of winter pears,..............do....
For the best twelve quinces,..........................do....
For the best twelve peaches,..........................do....
For the best twenty-four plums........................do....
For the best six bunches of native grapes,.............do....
For the best six bunches of foreign grapes,............do....
For the best dozen figs,.........................Diploma.
For the second best,...........................Vol. Tr....
For the best one-half dozen oranges,..................do....
For the best one-half dozen lemons,...................do....
For the best dozen nectarines,........................do....
For the best dozen apricots,..........................do....
For the best dozen pomegranates,......................do....
For the best pint of almonds..........................do....

*Resolved*, That a committee of —— be appointed by the Executive Committee, who shall report at the next annual meeting a list of not exceeding 30 kinds of apples, which shall be in their opinion best adapted to the economical demands of the people of this State, and be best suited to the different localities of the same, comprising their most extensive use in all seasons, for home consumption, and for exportation, the individual names of said fruits, a drawing of each separate kind, with a particular description thereof; and that in this connection they also take into consideration the several classes of fine fruits as adapted to the above purposes, and —— dollars be appropriated as in the judgment of the Executive Committee shall be necessary to accomplish this object.

*Committee.*—L. F. Allen, Black Rock; Dr. A. Stevens, New York; Dr. A. Thompson, Aurora; I. C. Platt, Plattsburgh; Prof. J. Jackson, Schenectady.

## FLOWERS.

For the greatest variety and quantity, Silver Medal.
For the second greatest,...Dip. | For third greatest,..Vol. Trans.
For the best Floral ornament, Silver Medal.
For the second best,..Diploma. | For best seedling dahlia,...Dip.
For third best,.....Vol. Trans. | For the second best, Vol. Trans.
For the best twenty-five varieties of Dahlias, Silver Medal.
For the second best,...Diploma | For the third best,..Vol. Trans.
For the most beautiful boquet, composed of not less than twelve varieties, Colman's Tour.
Second best,.........Diploma. | Third best,.........Vol. Trans.
For the greatest variety of house plants owned by one individual,....Diploma. | Second greatest, Vol. Trans.
For the best 20 varieties German asters,..............Vol. Trans.
For the best six varieties carnation pink,..............do....
For the best 12 varieties roses in bloom................Diploma.
Second best,.....................................Vol. Trans.
For the best 3 varieties of Cactus in bloom,............Diploma.
For the best 3 varieties Camellia Japonica, in bloom......do....
For the best single Camellia in bloom,..................do....
Best 6 Geraniums in bloom,.............................do....
Second best,.....................................Vol. Trans.

## VEGETABLES.

24 best stalks celery, 2 vols. Tr.
6 best heads cauliflower,..do..
6 best heads broccoli,.....do..
12 best white table turnips,..............Vol. Trans.
12 best carrots,..........do....
12 best table beets,.....Vol. Tr.
12 best parsnips,..........do....
12 best onions,............do....
3 best heads of cabbage,.do....
12 best tomatoes........do....
2 best purple egg plants,do....
12 best sweet potatoes,..Trans.
12 best water melons,....Trans.
Best half peck Lima beans, Vol. Trans.
Best half peck Windsor beans,.........Vol. Trans.
Best bunch double parsley,.............Vol. Trans.
Three best squashes,....do....
Largest pumpkin,........do....
12 best ears seed corn,...do....
Best half peck table potatoes,.................$2
Second best,.............Trans.
Best seedling potato,........$5
12 Cantelenp melons,....Trans.

Discretionary premiums will be awarded on choice garden products not above enumerated.

## MISCELLANEOUS.

Best Iron Gate for farm purposes,..................Silver Medal.
Best ornamental cast-iron vase, on pedestal,...........Diploma.
Best sample drain tile,...............................Diploma.
Best quarter of an acre of osier willow, and the best specimens manufactured from the product, $8.
Best specimen wire hurdle fence, to be accompanied with an account of cost, Silver Medal.

## DISCRETIONARY PREMIUMS

Will be awarded for—
1st—Stoves and other Manufactures of Iron.
2d—Paintings and Drawings.
3d—Ornamental Shell, Needle, and Wax work.
4th—Implements and Machinery.

Also, for all such other articles and products not enumerated above, as shall be deemed worthy of encouragement.

## FIELD CROPS.

Best crop of wheat raised upon any one farm, $15.
Second best,..............$10 | Third best,......2 Vols. Trans.
Best crop of spring wheat raised upon any one farm, $15.
Second best,..............$10 | Third best,......2 Vols. Trans.
Best crop of Indian corn raised upon any one farm, $15.
Second best,..............$10 | Third best,..Vol. Transactions.
Best crop of barley raised upon any one farm,........$10.
Second best,................$5 | Third best,..Vol. Transactions.
Best crop of rye raised upon any one farm,..........$10.
Second best,................$5 | Third best,..Vol. Transactions.
Best crop of oats raised upon any one farm,.........$10.
Second best,................$5 | Third best,..Vol. Transactions.
Best crop of potatoes for table, raised upon any one farm, $10.
Second best,................$5 | Third best,..Vol Transactions.
Best crop of potatoes, quantity considered, raised upon any one farm, $10,
Second best,................$5 | Third best,..Vol. Transactions.
Best crop of sugar beets raised upon any one farm, $10.
Second best,................$5 | Third best,..Vol. Transactions.
Best crop of mangel wurzel raised upon any one farm, $10.
Second best,................$6 | Third best,..Vol. Transactions
Best crop of ruta baga raised upon any one farm,....$10.
Second best,................$5 | Third best,..Vol. Transactions
Best crop of carrots raised upon any one farm,......$10.
Second best,................$5 | Third best,..Vol. Transactions.
Best crop of peas raised upon any one farm,........$10.
Second best,................$5 | Third best,..Vol. Transactions

N.B. It is understood the above premiums are to be awarded for crops raised in the usual cultivation of the farm—to include the entire crop raised in each case. It is not intended to offer premiums for crops raised on small parcels of land—by unusual manuring and cultivation.

Best acre of corn, for fodder, $5.
Best half acre of hops,......$5 | Best half acre of tobacco,...$5
Best half acre of flax,....... 5 | Best acre of cabbage,........ 5
Best acre of broom corn, $5.
Best acre of clover seed, $10.
Second best,...Colman's Tour. | Third best,..Vol. Transactions.
Best acre of timothy seed, $10.
Second best,..Colman's Tour. | Third best,............Diploma.

Those who present claims to premiums for farm crops, must state in writing the following particulars: The condition of the soil at the commencement of cultivation for the crop; the previous crop and cultivation, and quantity of manure used upon it; the quantity and kind of manure the present season; the quantity and sort of seed used; the time and manner of sowing, cleaning, and harvesting the crop; the amount of the crop determined by actual weight or measurement, and the expense of cultivation. The land shall be measured by some surveyor, who shall swear to the correctness of his survey, and that it was made with a chain and compass; and the claimant of the premium, with two other persons who assisted in measuring, shall certify under oath as to the quantity produced from the piece of land mentioned in the certificate of the surveyor—and a sample of grain shall be presented at the annual meeting, with the oath of the applicant, that the same is a fair sample of the whole crop.

The statements required from those who compete for the premiums on farms and field crops, must be sent to J. B. NOTT, Recording Secretary, Albany, previous to the 1st of December, 1846, and the premiums will be awarded at the annual meeting of the Society on the third Wednesday of January.

N.B. Plate will be substituted for money, on the application of the persons receiving the premium.

## PREMIUMS FOR 1847—1848—1849.

Whereas, the Agricultural Society of the State of New York has not an experimental farm; and whereas, to some extent, satisfactory experiments can be made by intelligent farmers on their own farms; therefore

*Resolved*, That the undermentioned list of premiums be offered to induce public spirited individuals to lend their valuable aid in extending the boundaries of accurate rural knowledge.

Three premiums will be awarded of $30, $20, and $10, in January, 1848. For the best experiment upon a head of not less than eight cows, to determine the relative advantages of soiling, or depasturing milch cows. The experiment to be conducted as follows:

1st. The experiment must commence on the first day of May, and be continued until the first day of November.

2d. The cows to be divided in two lots of four each. One lot to be soiled, the other depastured. Before commencing the experiment, each lot must be weighed, and the record of the weight returned to the committee. It is necessary that the two lots shall be as near alike in weight and milking properties as possible.

3d. The milk of each lot to be weighed separate daily.

4th. The manure made from those soiled to be ascertained in cords.

5th. An account to be kept of the expense of soiling, also a detailed statement of the entire management, together with the measurement of the land occupied in soiling, and each to be returned to the committee.

6th. A description and measurement of the land occupied for pasture, also to be made.

7th. Each lot to be weighed at the conclusion of the experiment.

For the best experiment to be continued through three crops, to ascertain in bushels of grain and weight of stalks or straw the actual value of manure to a farmer. The experiments to be conducted as follows, viz.:

1st. Three contiguous acres of ground shall be selected.

2d. One acre of which shall be manured with not more than ten cords of common barn yard manure the first year, and plowed under. The second acre to be manured with fermented or composted manure, to be applied in any manner the experimenter chooses—but a full account of the mode is to be made, and the manner of application. Also, an accurate account of the cost of the material and its application.

3d. The three acres are to be planted with corn the first year; the second to be sowed with barley or oats; the third crop to be winter grain; an accurate account of the yield of each crop to be kept.

4th. A full account of the whole management and all the details respecting the culture and the circumstances affecting the crop.

5th.—The several kinds of soil to be particularly described, and specimens transmitted to the State Society for analysis, before commencing the experiment—and also at the conclusion of the experiment—discriminating carefully between each acre.

For the best,..$40 | Second best,..$30. | Third best,..$20.

N.B. The specimens of soil to be selected for analysis, must be taken from the surface in different parts of the acre. Where the acre is green sward, the sample must be taken just at the termination of the roots of the grass. Specimens should also be selected from the depth of seven or eight inches. At all events, immediately below the usual depth to which the plow runs. The specimens of soil must in no case be mixed; and should consist of about 1 lb., sewed in a cotton bag.

$20 will be paid at the Annual Meeting of the Society, in 1848, to the person who will make the most satisfactory agricultural experiment—accuracy and the importance of the experiment to be taken into consideration. A full detail of the experiment and its results must accompany the application.

For the best managed entire flock of sheep, of not less than 100, to be awarded at the annual meeting in 1848.

Best,..$30. | Second best,..$20. | Third best,..$10.

The applicant for these premiums will be required to furnish the Society with the following information, viz:

1st. The kind and quantity of food and its value.

2d. The quantity and quality of wool—this to be determined by its being submitted to the stapling of some respectable manufacturing establishment, whose certificate shall accompany the application for the premium.

3d. The number of the increase.

4th. Kind of sheep and the number of ewes, wethers, and bucks.

5th. The value of sheep when fattened, and the value of lambs for the butcher.

To CORRESPONDENTS.—L. T. Talbot, A Subscriber, Nath. Sawyer (whose questions will be answered by a gentleman who has travelled in New Mexico, California, &c.), C. N. Bement, J. Bowers, Arch'd Jane, and T, are received. Two of the articles of the latter for Boys' Department came to hand so late as to be out of season, we shall therefore lay them over till next year. The other articles shall appear in our next. They are all good, and we are much obliged.

## REVIEW OF THE MARKET.

### PRICES CURRENT IN NEW YORK, MARCH 23, 1846.

| | | | | |
|---|---|---|---|---|
| ASHES, Pots, | per 100 lbs. | $4 00 | to | $4 06 |
| Pearls, | do. | 4 38 | " | 4 44 |
| BALE ROPE, | lb. | 5 | " | 7 |
| BARK, Quercitron, | ton, | 25 00 | " | 28 00 |
| BEANS, White, | bush. | 1 12 | " | 1 25 |
| BEESWAX, Am. Yellow, | lb. | 28 | " | 33 |
| BOLT ROPE, | do. | 12 | " | 13 |
| BONES, ground, | bush. | 40 | " | 55 |
| BRISTLES, American, | lb. | 25 | " | 65 |
| BUTTER, Table, | do. | 16 | " | 25 |
| Shipping, | do. | 9 | " | 13 |
| CANDLES, Mould, Tallow, | do. | 9 | " | 11 |
| Sperm, | do. | 25 | " | 38 |
| Stearine, | do. | 20 | " | 25 |
| CHEESE, | do. | 5 | " | 10 |
| COAL, Anthracite, | 2000 lbs. | 5 50 | " | 6 50 |
| CORDAGE, American, | lb. | 11 | " | 12 |
| COTTON, | do. | 6 | " | 11 |
| COTTON BAGGING, Amer. hemp, | yard, | 13 | " | 14 |
| Kentucky | do. | 12 | " | 13 |
| FEATHERS, | lb. | 26 | " | 34 |
| FLAX, American, | do. | 7 | " | 8 |
| FLOUR, Northern and Western, | bbl. | 5 50 | " | 5 87 |
| Fancy | do. | 6 00 | " | 6 50 |
| Southern, | do. | 5 50 | " | 5 87 |
| Richmond City Mills, | do. | 6 50 | " | 6 75 |
| Rye, | do. | 3 75 | " | 4 00 |
| GRAIN—Wheat, Western, | bush. | 1 15 | " | 1 25 |
| Southern | do. | 1 10 | " | 1 20 |
| Rye, | do. | 80 | " | 85 |
| Corn, Northern, | do. | 68 | " | 70 |
| Southern, | do. | 67 | " | 69 |
| Barley, | do. | 62 | " | 65 |
| Oats, Northern, | do. | 43 | " | 45 |
| Southern, | do. | 38 | " | 40 |
| GUANO | do. | 2 00 | " | 3 00 |
| HAY, in bales, | 100 lbs. | 80 | " | 90 |
| HEMP, Russia, clean, | do. | 210 00 | " | 210 00 |
| American, water-rotted, | ton, | 105 00 | " | 185 00 |
| American, dew-rotted, | do. | 75 00 | " | 125 00 |
| HIDES, Dry Southern, | do. | 8 | " | 10 |
| HOPS, | lb. | 20 | " | 35 |
| HORNS, | 100. | 1 00 | " | 7 00 |
| LEAD | lb. | 4 00 | " | 4 06 |
| Sheet and bar | do | 4½ | " | 5 |
| MEAL, Corn, | bbl. | 3 38 | " | 3 50 |
| Corn, | hhd. | 15 75 | " | 16 00 |
| MOLASSES, New Orleans, | gal. | 30 | " | 32 |
| MUSTARD, American, | lb. | 16 | " | 31 |
| NAVAL STORES—Tar, | bbl. | 2 00 | " | 2 25 |
| Pitch, | do | 1 25 | " | 1 38 |
| Rosin | do. | 75 | " | 85 |
| Turpentine, | do. | 4 00 | " | 4 50 |
| Spirits Turpentine, Southern, | gal. | 60 | " | 65 |
| OIL, Linseed, American, | do. | 64 | " | 65 |
| Castor, | do. | 57 | " | 68 |
| Lard, | do. | 70 | " | 75 |
| OIL CAKE, | 100 lbs. | 1 75 | " | 1 88 |
| PEAS, Field, | bush. | 1 50 | " | 2 00 |
| PLASTER OF PARIS, | ton. | 2 62 | " | 2 75 |
| Ground, in bbls., | of 300 lbs. | 1 12 | " | 1 25 |
| PROVISIONS—Beef, Mess, | bbl. | 7 00 | " | 9 00 |
| Prime, | do. | 4 50 | " | 5 50 |
| Smoked, | lb. | 6 | " | 9 |
| Rounds, in pickle, | do. | 4 | " | 6 |
| Pork, Mess, | bbl. | 10 50 | " | 13 00 |
| Prime, | do. | 9 00 | " | 10 00 |
| Lard, | lb. | 6½ | " | 7 |
| Bacon sides, Smoked, | do. | 3 | " | 4 |
| In pickle, | do. | 3 | " | 4 |
| Hams, Smoked, | do. | 6 | " | 10 |
| Pickled, | do. | 4 | " | 7 |
| Shoulders, Smoked, | do. | 5 | " | 6½ |
| Pickled, | do. | 4½ | " | 5 |
| RICE, | 100 lbs. | 3 75 | " | 4 50 |
| SALT, | sack, | 1 28 | " | 1 30 |
| Common, | bush. | 20 | " | 35 |
| SEEDS—Clover, | lb. | 9 | " | 13 |
| Timothy, | 7 bush. | 13 50 | " | 20 00 |
| Flax, clean | do. | 10 00 | " | 11 00 |
| rough, | do. | 9 00 | " | 10 00 |
| SODA, Ash, cont'g 80 per cent. soda, | lb. | 3 | " | 3 |
| Sulphate Soda, ground, | do. | 1 | " | — |
| SUGAR, New Orleans, | do. | 5 | " | 8 |
| SUMAC, American, | ton, | 35 00 | " | 37 50 |
| TALLOW, | lb. | 7 | " | 8 |
| TOBACCO | do. | 3 | " | 7 |
| WHISKEY, American, | gal. | 22 | " | 24 |
| WOOL, Saxony, | lb. | 35 | " | 50 |
| Merino, | do. | 30 | " | 35 |
| Half blood, | do. | 25 | " | 30 |
| Common | do | 20 | " | 28 |

### NEW YORK CATTLE MARKET.—March 23.

At Market, 1000 Beef Cattle (800 Southern), 100 Cows and Calves, and 900 Sheep and Lambs.

PRICES.—Beef Cattle—Prices have fully recovered what little they had lost last week. We quote as in quality, $5a$7½ as the extremes of the market. Unsold, 100.

COWS AND CALVES.—Prices remain firm at last week's rates. All sold at from $15 to $35.

SHEEP AND LAMBS.—Holders were backward last week, and the offerings smaller than for some months past. All taken at prices ranging, according to quality, from $2 25a$5 to $6 50.

HAY.—The stock on hand at present is very small—fully adequate, however, to the demand. The North River being now open, fresh supplies, in the course of the week, are expected. Sales of Long Island at $1 per cwt.

### MOUNT HOPE BOTANIC GARDEN & NURSERIES,

ROCHESTER, NEW YORK,

*South St. Paul Street, nearly opposite the Cemetery.*

The Proprietors of this establishment offer for sale an unusually large and fine collection of Fruit and Ornamental Trees, Flowering Shrubs, Roses, Herbaceous Plants, Double Dahlias, Bulbous Roots, Grape Vines, Raspberries, Strawberries, Gooseberries, Asparagus Roots, Rhubarb, Hedge Plants, Green-house Plants, &c. &c.

The collection of Fruit Trees comprises the most popular varieties cultivated, and has been grown with the greatest possible care, to ensure accuracy. The proprietors are *practical, experienced nurserymen*, and devote their entire attention to the business. All the important operations are performed either by themselves or under their immediate inspection. Experience has fully proved that trees grown at this point, in addition to being free from diseases, are better adapted to cold climates than those of any other portion of the United States.

The collection of *Apples* includes several thousands of the famous new American apple, the *Northern Spy*. Of *Pears*, a large assortment of the choicest kinds are propagated on quince stocks, for garden culture, as *dwarfs or pyramids*, and will bear the first or second year after planting. A lot of extra size for immediate bearing are now offered.

The collection of *Ornamental Trees* is large, and includes a few hundred of the splendid *Paulownia Imperialis*. The catalogue of *Roses* embraces the most beautiful of the new varieties of the several classes; hardy and tender. A choice variety are propagated as standards or tree roses, 4 to 6 feet high, with fine heads. Of *Double Dahlias*, the assortment is unsurpassed, including the finest show flowers introduced to this country, and many that were imported last season at 5 guineas each. A separate catalogue will be published in April. The stock of Green-house plants is very extensive, and includes the most beautiful new Pelargonium (Geranium), Fuchsia, Camellia, Calceolaria, Verbena, Roses, Cactus, &c. All are finely grown, and are offered at greatly reduced prices.

Trees and plants packed in the best manner, and shipped to any part of the country agreeable to order. Priced catalogues sent *gratis*, to all *post-paid* applications. Orders from unknown correspondents must be accompanied with a remittance or a reference. ELLWANGER & BARRY.

April, 1846.

### COUNTRY SEAT AND FARM.

FOR SALE.—A Farm and beautiful Country Seat, at Flushing, L.I., one mile from the steamboat landing—containing about sixty acres of land, under the best state of cultivation, having a fine view of the bay and surrounding country. On the premises are a two story dwelling-house (handsome interior), marble mantels and folding doors, containing ten rooms, large garret and cellar, with kitchen, washroom, and milkroom—attached, two large barns, carriage house, stable, and other outbuildings—also gardener's and farmer's cottages. The gardens are tastefully laid out with fruit and flowers, upwards of 100 peach trees, and over 250 specimens of fruit trees of various kinds, large green-house, hot-house, pots, &c., &c., and one of the most splendid vineries of its kind, in this country or in Europe, 186 feet long, and 22 feet wide, with span roof, containing 102 superior foreign Grape Vines, of 21 varieties, and 40 Peach, Nectarine, Apricot, and Greengage trees, on arched trellises in the centre, bearing large fruit. The vines commence bearing this summer. Further description is unnecessary, as persons disposed to purchase, will view the premises. The facilities of communication between Flushing and the city, both by steamboat and stages, are too familiar to need description.

For terms of sale, which will be reasonable and accommodating, apply (if by letter post-paid) to W. H. Franklin & Son, Broad Street, New York, or to the subscriber at Flushing.

JACOB R. VALK.

### GUANO.

The Subscribers offer for sale, on very accommodating terms, the balance of the ship Shakspeare's cargo, the only direct importation into this port from Ichaboe. Much guano from other parts of Africa has been sold as Ichaboe, which on trial has produced unfavorable results. To prevent the loss of ammonia, this cargo has been put in air-tight casks. Apply to

Feb. 6, 1846. E. K. COLLINS & CO., 56 South St.

### AGRICULTURAL INSTITUTE.

*Orange County Scientific and Practical Agricultural Institute.*

The design of this Institute is to afford the most efficient means for the acquisition of a combined scientific and practical knowledge of Agriculture.

A number of farmers residing in the same neighborhood, in the town of Montgomery, from 7 to 9 miles west of Newburgh, having united, under a written contract, one with the other, to become instructors to such pupils as may be committed to their care, through the undersigned, their officers, present the Institution to the attention of the public.

Each pupil will be under the practical instruction of the member of the association with whom he may reside.

The scientific instruction will be under the care of Mr. James Darrach, a graduate of Yale College, a gentleman of scientific attainments, and, in common with his associates, the holder of his own plow.

This part of the Institution will embrace most of the Academic Studies, Natural History, and principles of Agricultural Economy.

The peculiarity of this Institute which recommends it to parents is, that the practical instruction will be given by practical farmers, whose duty and interest compel them to attend to the economy as well as the general management of a farm.

It presents also the following features: Family Discipline and Care; constant companionship with the instructors; varied husbandry and soil, which the pupils will be constantly directed to observe and compare. In the neighborhood are places of worship within convenient distance for all to attend, Episcopalian, Presbyterian, Reformed Dutch, Scotch Presbyterian, and Methodist.

Terms—$125 per annum, for tuition and board, payable semi-annually in advance.

Mail and other stages that pass over the Newburgh and Cochecton turnpike, connect our places daily with Newburgh.

The Institute will open for the reception of pupils on the 1st of April.

Inquiries and applications may be addressed to either of the undersigned at Coldenham, Orange County, N.Y.

LINDLEY MURRAY FERRIS, President,

Samuel Walt, Jr., Secretary.

References—Frederick J. Betts, Esq., President of the Orange County Agricultural Society; John Caldwell, Esq., Salisbury, Orange County; A. B. Allen, Esq., Editor of the American Agriculturist; Wm. Partridge, merchant, New York; Peter H. Schenck, Esq., New York; Hon. Morris Franklin, New York; and the officers of the American Institute.

### JACKS AND JENNETS.

The Subscriber has two very large fine Spanish jacks, and some superior jennets for sale. Inquire, post-paid, of

New Brunswick, N.J. JOHN A. POOLE.

### FIELD AND GARDEN SEEDS.

The Subscriber has been so often requested to add Garden Seeds to his assortment of Field Seeds, that he has at length consented to do so, and now offers for sale a great variety, grown by responsible persons, and put up expressly for him. They are fresh, and he confidently thinks may be relied upon.

A. B. ALLEN, No. 187 Water Street, N.Y.

### PRINCE'S MANUAL OF ROSES.

PRICE 50 CENTS.

The new and improved edition of this work will be issued the present week. It comprises the most complete history of "THE ROSE," and of all the branches of this most interesting family that has ever appeared in Europe or America. Every variety that is comprised in any English, French, or American work on the subject, is described in this, together with an immense number of the splendid new varieties, that have not been noticed in any previous publication. The most ample information is also given as to the culture and propagation of all classes of "THE ROSE." Published by the author, Wm. R. Prince, Clark & Austin, Saxton & Miles, Wiley & Putnam, and Swords, Stanford & Co., New York.

*New York, March* 1st, 1846.

### IMPERIAL OATS.

A few barrels of these superior oats can be had of the subscriber. Price $4 per barrel, or 1.50 per bushel.

A. B. ALLEN, 187 Water Street, N.Y.

### DURHAM BULL FOR SALE.

Not having sufficient use for him, the subscriber offers for sale his thorough bred imported bull, Prince Albert. His sire was the celebrated bull, Sir Thomas Fairfax, and his pedigree can be seen in the British Herd book, Vol. 4, page 362. He is five years old, a red roan, of medium size, and of quiet temper. If not previously disposed of, he will be offered for sale at the next show of the New York State Agricultural Society.

Letters on the subject can be addressed to the subscriber at Red Hook, Dutchess County, New York, where the bull may be seen.

ROBERT DONALDSON.

## NEW YORK AGRICULTURAL WAREHOUSE.

CAUTION.—BEWARE OF COUNTERFEITS,

*The only place to find the genuine Eagle and other Plows, manufactured by Ruggles, Nourse & Mason, of Worcester, Massachusetts, is at the Warehouse of*

THE Subscriber, who keeps constantly on hand the best and most complete assortment of Agricultural Implements, Field Garden Seeds, Fertilizers, Fruit Trees, &c., to be found in the city. A few of the articles he enumerates below, viz.:—

*Plows.*—Cotton, Rice, and Sugar Plows,..........$2.00 to 4.50

Some of these plows are made expressly for light sandy soils, others for a loam or stiff clay, which they work in the best manner. Being made by patent machinery, they are superior to anything of the kind ever before sold in this market.

One-horse Plows for the North, with single and double mould boards. These last are admirable to work in between the rows of root crops and corn, when not over 3½ feet apart, as they turn the furrow both ways to the crop at once, thus doing double the work of a single mould board........................3.00 to 5.00

Rice Trenching Plow. This does the same work as the hands perform on a rice plantation with trenching hoes, and equally as well, and with five times the rapidity that a negro can work. No rice planter should be without them..................6.00 to 6.50

Two and Four-horse Plows, of different sizes, and for all kinds of soil—stony, sandy, loam, or clay; also for stubble and sward land. Some of these have crane-clevies attached to them, thus enabling the off horse, in plowing a wet meadow, to walk on the solid sward, instead of a miry fresh plowed furrow. Others are adapted to trench plowing, enabling the farmer to turn up virgin earth in a deep soil. These plows are strong enough to grub up bushes with their roots, heavy bogs, &c. They likewise answer for partial ditching..............................5.00 to 20.00

Paring Plows for shaving off the turf preparatory to burning............................................ 15.00

Harrows. A complete assortment of square, triangle, and double triangle folding harrows, with wrought iron or steel pointed teeth. The last are very superior...........6.00 to 16.00

Rollers of various kinds, wood, stone, or iron, single or double, and to move by hand or horse power...............16.00 to 65.00

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Horse Powers. Endless chain single horse..............85.00

" do. two-horse..............110.00

" Cast-iron, single or two-horse...........50.00 to 60.00

" do. four-horse..........................95.00

Grain Threshers....$25.00 to 40.00 Beaters....20.00 to 25.00

Threshers, with Separators.....................35.00 to 50.00

Clover Mills...................................30.00 to 65.00

Fanning Mills..................................12.00 to 27.00

Burr Stone Mills, for grinding grain............30.00 to 125.00

Cast-iron Mills, a new and most admirable invention. They work either by hand or other power, and are well adapted for grinding all kinds of grain, except flouring wheat for market...7.00 to 25.00

Corn and Cob Crushers, for grinding cob in the ear,30.00 to 35.00

Sugar Crushers...............................7.50 to 20.00

Paint Mills of various patterns..............7.00 to 17.00

Corn Shellers and Huskers. Will shell from 100 to 200 bushels of ears per hour, in the best manner. These work by horse or other power...........................25.00 to 50.00

The same worked by hand, made of wood or cast-iron.................................7.00 to 10.00

Vegetable Cutters, for slicing up potatoes, beets, turnips, &c.................................8.00 to 12.00

Straw Cutters. Common hand kind..............3.00 to 8.00

" Hovey's, with spiral blades.................10.00 to 30.00

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Self-Acting Cheese Press, a neat and very superior and simple article........................................ 6.50

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Tree or Bush Pullers, $3.00 to 5.00; Garden Syringes, 3.00 to 3.50. Grain Cradles, 3.00 to 3.50; Sausage Stuffers, 4.50 to 5.00; Lactometers, 2.50; Bee Hives, 3.25; Ox Yokes and Bows, 2.50 to 5.00; Manure Forks, 63 cents to 4.00; Hay ditto, 50 cents to 1.00; Grain and Grass Scythes, 75 cents to 1.00; Swingle Trees, 1.00 to 3.50; Hay and Straw Knives, 1.00 to 2.00; Axes, Collins', Hunts' and Simons', handled, 1.00 to 1.50; Grubbing Hoes, 50 cts. to 1.00; Picks, 1.00 to 2.00; Trace Chains, 75 cts. to 1.00; Budding ditto, 1.13; Ox chains, American 12½ cents per lb., English ditto, 9 cts; Shovels, 75 cts. to 1.50; Spades, ditto, ditto; Tree Scrapers, 31 to 75 cents; Schuffling Hoes, 25 cts. to 1.00; Churns, various patterns, 2.00 to 4.00; Grafting Chisels and Saw, handled, 2.00; Hoes, all patterns, 25 to 63 cts.; Potato hooks, 50 cts. to 1.50; Do. Forks, 1.37 to 2.00; Garden Reels, 75 cts.; Sickles, 37 to 63 cts; Grass Shears, 1.25 to 1.50; Twig Cutters, 50 cts. to 2.00; Vine Scissors, 63 cts.; Pruning Shears, 2.00; Screw Wrench-1.50 to 2.00; Sheep Shears, 75 cts. to 1.25; Strawberry Forks, 37 cts.; Scythe Rifles, Rakes, various patterns and various prices; Peat Knives 1.50; Ox Muzzles, 31 to 50 cts. per pair; Ox Bows, 31 to 50 cts.; Hatchets, 50 to 75 cts.; Horse Brushes, Hammers, Axe Handles, Horse Rockets, Grindstones, Rollers, Crank and Shafts, Flower Gatherers, Flails, Edging Knives, Cattle Tie-chains, Bull Rings, Butter Boxes, Bush Hooks, Caterpillar Brushes, Fleams, Scoops, Ox Balls, Post Spoons, Garden Trowels, Spinning-wheel Heads, Well Wheels, Oven Mouths, Budding Knives, Pruning ditto.

Castings of all the patterns for New York and Peekskill Plows at 4 cents per lb.

Worcester ditto, 6 cents.

Seeds of the various kinds, for the field and garden; such as Wheat, Rye, Oats, Barley, Corn, Beans, Peas, and Grass Seeds, Potatoes, Beets, Carrots, and Parsnips.

Fertilizers, such as Guano, Poudrette, Lime, Plaster, Bones, Agricultural Books, a complete assortment.

A liberal discount made to dealers.

A. B. ALLEN, 187 Water Street, N. Y.

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## THE AMERICAN AGRICULTURIST.

Published Monthly, by SAXTON & MILES, 205 Broadway, New York, containing 32 pages, royal octavo.

TERMS—One Dollar per year in advance; three copies for Two Dollars; eight copies for Five Dollars.

When Agricultural Societies order the work for distribution, among the members, the price will be only FIFTY CENTS a year, for the Monthly Numbers, and SEVENTY-FIVE CENTS per copy for bound volumes. It will be expected that these orders come officially, and be signed by the President or Secretary of the Society. The object in putting our periodical at this very low rate is, to benefit the farming community more extensively than it could otherwise be done. We hope, henceforth, to see the Agriculturist in the hands of every Farmer and Planter in the country.

Each number of the Agriculturist contains but One sheet, and is transported by mail under the same regulations as newspapers, viz.: *free* any distance not over 30 miles from its place of publication; over this and within 100 miles, or to any town in the State of New York, *one cent* postage on each number, and *one and a half cents* if over 100 miles, without the State.

Editors of newspapers noticing the numbers of this work monthly, or advertising it, will be furnished a copy gratis, upon sending such notice to this office.

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## FRUIT TREES.

For sale, a collection of fine *Apple Trees*, comprising 50 choicest sorts; also upwards of 200 distinct varieties of *Pear trees*; also *Cherries*, *Apricots*, and *Plums*.

When the order comprises 100 TREES, the prices will be for apples, 15 cents; for pears on free stocks for standards, 30 cents; ditto on quince stocks for dwarfs, 20 cents. For any less number than 100 trees in an order—Apples, 20 cts.; pears, 37½ cts.; ditto on quince, 25 cts.; apricots, 50 cts.; plums, 37½ cts.; cherries, 37½ cents. Apply (*by letter post-paid*) at the Fruit Plantation of Lloyd N. Rogers, near Baltimore, to

THOS. TURNER, Manager.

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## HOVEY'S SEEDLING STRAWBERRY.

Price $1.50 per hundred plants, and $10 per thousand.

A. B. ALLEN, 187 Water Street, N. Y.

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ROTTERDAM.

AMERICAN AGRICULTURIST.

*Agriculture is the most healthful, the most useful, and the most noble employment of man.*—WASHINGTON.

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A. B. ALLEN, Editor. SAXTON & MILES, Publishers, 205 Broadway.

## FRENCH MODE OF MAKING APPLE BUTTER.

IN France, a kind of jam, or apple butter, called *raisiné composé*, is prepared by boiling apples in unfermented wine. The must or wine should be reduced by boiling to one-half of its bulk, to be continually skimmed as fresh scum arises, and afterwards strained through a cloth or a fine sieve. The apples are then pared, cut into quarters, and put into this liquor (raisine) and left to simmer gently over a fire, with a continual stirring with a wooden spatula or slice, till the apple becomes thoroughly amalgamated with the liquor, and the whole forms a kind of marmalade, which is extremely agreeable to the taste.

When prepared in the northern departments of France, the raisine, after the first boiling, skimming, and straining, is set in a cool place for twenty-four hours, when a saline liquor, like a scum, appears on the surface. This is removed, and the liquor strained, before it is mixed with the apples, as above. This scum consists principally of tartaric acid, which would spoil the raisine, and prevents it from keeping sweet, but which is not perceivable when the grapes, from which the wine is made, have been ripened in a southern climate. The raisine, when properly prepared, is sweet, but with a slight flavor of acidity, like lemon-juice mixed with honey. The best raisine is made *in* Burgundy. In Normandy, a similar marmalade is composed of cider and pears, much resembling the "apple-butter," or "apple-sauce," of the United States; but it is not so good as the raisini, being apt to ferment. In some cases, the pears are put into an earthen vessel without water, and placed in a baker's oven, after the bread has been drawn, previously to mixing with water.

The best raisine is considered very wholesome, particularly for children, who eat it spread on bread, and for persons in delicate health, whose stomachs will not bear butter. In Italy, the raisine is eaten with *gnocchi* and other preparations of Indian corn, and with maccaroni, to give a flavor to these dishes. There is nothing better to make a dinner relish, and we would always have it, or apple, or cranberry sauce, if possible.

## PRESERVATION OF APPLES.

APPLES intended to be preserved for winter and spring use, should remain upon the trees until quite ripe, which usually takes place at the coming of the first heavy frosts. They should then be plucked from the trees by hand, in a fair day, and packed up immediately in casks, in alternate layers of dry sand, plaster, chaff, saw-dust, or bran, and conveyed to a cool, dry place, as soon as possible. The sand or saw-dust may be dried in the heat of summer, or may be baked in an oven at the time required to be used. The peculiar advantages arising from packing apples in sand, are explained and commented upon as follows, by the late Mr. Webster, author of the "American Dictionary of the English Language." "1st, The sand keeps the apples from the air, which is essential to their preservation; 2d, The sand checks the evaporation or perspiration of the apples, thus preserving in them their full flavor—at the same time any moisture yielded by the apples is absorbed by the sand—so that the apples are kept dry, and all mustiness is prevented. My pippins, in May and June, are as fresh as when first picked. Even the ends of the stems look as if just separated from the twigs; 3d, The sand is equally a preservative from frost, rats, &c. But after the extreme heat of June takes place, all apples speedily lose their flavor, and become insipid."

## IMPORTATION OF PURE BRED MERINO SHEEP.

It will be recollected we mentioned in the Agriculturist of last year, that Mr. John A. Taintor, of Hartford, Ct., had sailed for England in the month of May, with a view of making a general tour in Europe; and that a paramount object with him during his absence, would be the inspection of the best fine-woolled flocks of France, Germany, and Spain, for the purpose of selecting some choice animals from them for an importation into the United States. We know no man in America so well qualified to make these selections as Mr. Taintor; for his father was largely interested in the early importations of the Spanish Merinos, and their subsequent breeding; and the son was with him in the same occupation from boyhood, followed up by extensive dealings in wool from that time to the present. In this way he had the best opportunity of obtaining a thorough knowledge of the animals, and the best system of rearing and breeding them, together with an intimate acquaintance with the wants of the manufacturers, and that quality and style of wool most suitable for their general purposes. Thus qualified to make selections, Mr. Taintor has spent about fifteen months in looking over the government and private flocks in the north and south of France, and among the Pyrenees; in the mountains and plains of Spain; and in Saxony, Prussia, and Austria, including Bohemia and Moravia. All this was done under peculiarly favorable circumstances, and such as are not soon likely to occur to any one again. The result is, from these flocks, he has been permitted to choose such sheep as he wanted. Four Saxon bucks and four ewes of his selection, from the Electoral and the equally celebrated Baron de Spreck's flocks, came out in the ship Atlantic, from Bremen, for Mr. Scoville, of Connecticut, a notice of which we gave at pages 198 and 203 of our current volume; and three Merino bucks and twenty-three ewes arrived with him in the ship Patrick Henry, Capt. Delano, from Liverpool, on the 1st of August last.

Although we had a good opportunity of seeing these sheep on board ship after their arrival, and again when transferred to the steamboat for Hartford, yet this was not sufficient to satisfy us; accordingly, after they had been at home about a fortnight, we went on there to examine them more particularly, and see them shorn, they having come out with their fleeces on. The rams being young, we will dismiss them by saying, that they are the most promising animals of their breed we ever saw, and when full grown, will weigh at least from 225 to 250 lbs. each. The sire of one was sold the past season for $500. He sheared 23 lbs. of unwashed wool.

To give an idea of the ewes, we measured them after they were shorn, and found they varied from 25½ to 29 inches in height over the withers; and lest it may be thought this superior height is attained by extra long legs, we will add, that the height of the under side of their bodies from the ground, was from 9½ to 12 inches; which, according to our observation, is no greater in proportion to their size, than that of good American Merino sheep. Their weights we took after being shorn. They varied from 124 to 153 lbs. Some of them were quite thin in flesh, the largest especially, which, if in fine condition and her fleece on, would weigh at least 200 lbs.

The following is the weight of their fleeces unwashed. We took them ourselves in the presence of several witnesses, and as fast as shorn from the ewes' backs. The scales we used did not mark less than one quarter of a pound, which will account for the absence of odd ounces.

| | | | | | |
|---|---|---|---|---|---|
| No. 17 | 13 | lbs. | No. 100 | 12 1-4 | lbs. |
| " 37 | 15 | " | " 109 | 17 | " |
| " 64 | 16 3-4 | " | " 110 | 17 | " |
| " 71 | 14 1-2 | " | " 117 | 16 3-4 | " |
| " 84 | 16 1-2 | " | " 118 | 15 3-4 | " |
| " 87 | 16 1-4 | " | " 133 | 14 3-4 | " |
| " 94 | 17 | " | " 195 | 13 1-2 | " |
| | 109 | | | 107 | |

The fleeces were about fourteen months old, but they had lost some on their voyage out, and on account of the lateness of the season, were not shorn near as close as it is customary; besides, on several of them, from half to one pound of the wool was left on the heads and legs, for the purpose of giving an idea of their fleeces to those who may call hereafter to look at them. Taking all these things into consideration, it was the unanimous opinion of several sheep-masters present, that the wool clipped from these ewes was not more than would have been equivalent to one year's growth.

We shall not compare the weight of these fleeces with what is generally termed *clean washed* wool, as it is the most uncertain and unsatisfactory comparison which can be made, for when it comes to be cleansed by the manufacturer, it will vary in loss from 20 to 50 per cent. just as the case may happen. It was the unbiassed opinion of several wool dealers present, and our own, that the shearing above would yield at least 35 lbs. of *cleansed* wool, fitted for manufacturing without further loss, out of every 100 lbs. shorn. The fourteen ewes yielded 216 lbs. unwashed, which would be equivalent to 75 lbs. 10 oz. thoroughly cleansed, or an average of 5 lbs. 6 oz. per head. If any of our readers are desirous to know what this would come up to, *clean washed*, they may safely add one third. This would bring the average as wool growers usually dispose of their fleeces, to 7 lbs. 3 oz. per head—a yield totally unprecedented in this country. The usual average weight of good Merino ewes is about half this. The average of the flocks in Europe from which these sheep were chosen, is, for rams from 15 to 17 lbs. per head; for ewes 11 to 13 lbs., unwashed. The average price of such wool in its unwashed state, is 26 cents per lb. of our money.

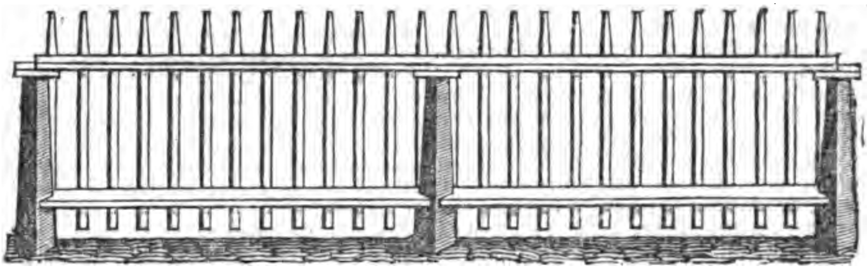
These sheep show great vigor of constitution, and are remarkably well formed, with enormous dewlaps and folds all over the carcass. Their fleeces are very close, thickly covering the head and legs as well as the body, and are uncommonly even, the wool being nearly as good on the flanks as on the shoulders, while its felting properties are unsurpassed. In fineness of quality it is equal to the best American Merino. To those who have good pastures and are desirous of breeding a large, strong, hardy flock, yielding wool fine enough for-the better qualities of broadcloth, here are the animals for them.

If Mr. Taintor's time and travelling expenses be taken into consideration, the cost of these sheep would be enormous. He has not been at the trouble and expense of this importation with a view of making money from it, but to please himself. He will also breed them for his own pleasure and to occupy his leisure hours with a useful hobby. Ewes from the flock will not be for sale at any price; but the ram lambs will probably be offered to those who wish to purchase, in September, 1847, and annually thereafter, at prices doubtless much below what it would cost to import them.

We consider this one of the most important importations of fine-woolled sheep ever made into the United States, and that Mr. Taintor deserves the gratitude of his country for it. He has made arrangements in Europe for a few others of a similar superior character to follow these next season, and as often thereafter as it may be advisable to make a fresh cross, so that flock-masters may not only be satisfied as to the character of his produce, but have an opportunity also of getting a fresh cross themselves from his flock whenever necessary.

One ram and seven ewes have been placed by Mr. Taintor, in the hands of Mr. Francis Rotch, of Butternuts, Otsego County, N. Y.; another ram has been sent to Mr. L. G. Bingham, of Williston, Vt., to breed to his Rambouillet Merino flock, purchased last year of Mr. D. C. Collins, Hartford, Ct., a notice of which appeared in our last volume, page 382.

## STEVENS' PATENT FENCE.



Stevens' Patent Fence.—Fig. 63.

**Mr. Joseph Stevens**, of Northumberland, Saratoga County, New York, has recently invented a mode of constructing fences on a new plan. The posts are made of the same composition as common bricks, being burnt or baked to the consistency of a hard, arch brick. They are set in the ground diagonally, or corner-wise; a tenon is made on the top of each post, on which is placed a coupling block for the top rail to rest upon, and fastened to it by a pin or nail, which unites the whole fence firmly together; the bottom rail is notched at each end, so as to brace the posts firmly, and is supported by the paling or pickets. It will be seen that in this mode of construction, there are no tenons in the rails, thus preventing rot or decay in the wooden part.

The durability of the posts of this fence being almost imperishable, is alone sufficient to entitle it to attention; and in adding to this its beauty—being really ornamental—and, above all, its cheapness, appears to render it a useful and valuable discovery.

Perhaps there is no improvement at the present day, more needed or more called for, than that of fences; farmers in particular, who are subject to such great expense in constructing in the old manner, and a constant tax in repairing them, while the materials they now use are yearly becoming more scarce, and their expenses consequently greater, will do well to look into this matter, and avail themselves of the opportunity offered, to obtain a cheap and durable article. The inventor has ascertained by experiment that this fence can be constructed as cheaply as any ordinary kind now in use.

**Show of the New York State Ag. Society.**—Let our readers bear in mind that this Show will take place at Auburn, on the 15th, 16th, and 17th, of this month. The place is easily reached by the great Western railroad, which passes directly through it. Auburn is a beautiful town, in the heart of a highly fertile country, and the accommodation for visitors there we understand is most ample. The show will be a grand farmers' festival, and we hope to see a large number of them present, with their families. They will find much to admire there, and something we trust to instruct them. We have no doubt it will be one of the best, in many respects, that the Society has yet held. Much interest is manifested in it, and extensive preparations are on foot to render it all it should be.

**Symptoms of Disease in Animals.**—A full and frequent pulse, loss of appetite, dejected head, and a languid or watery eye, with a disposition to lie down in a dark or shady place, are certain marks, in all brute animals, of one of the most frequent diseases with which they are affected—that is, the fever. The watery eye, an inability to bark, or barking with a stertorous hoarseness, indicate the approach of madness in the dog. The elevation of the hair on the back of a cat, and its not falling upon its feet, when thrown from a moderate height, are the premonitory signs of that disease, which has long proved fatal to that species of animal both in Europe and America. The tail of a horse losing its regularity of motion from side to side, indicates that he is indisposed, and the part in which his disease is seated is pointed out by one of his ears inclining backwards to the side affected. The seat of disease in the abdomen, where the signs are concealed, may be known by pressing the hand upon his whole belly. When the diseased part is pressed, he will manifest marks of pain.

## NEW YORK FARMERS' CLUB.

At a late meeting of this club, Mr. Turell presented the following humorous report in the Portsmouth Journal of the New Hampshire Legislature on the

*Bounty on Crows.*—Mr. Clark said as the gentleman from Alstead (Mr. Vilas) and the gentleman from New Ipswich (Mr. Preston) were in their seats, he moved that the report of the Committee on Agriculture and Manufactures, in relation to killing crows and giving bounty thereon, be taken up, which motion prevailed.

The resolution declared that it was inexpedient to legislate upon the subject.

The bill, which had been referred to the committee, was read.

Mr. Preston said he was much obliged for the courtesy of his friend from Manchester in giving him an opportunity to speak on this subject. He should, in the common parlance of the day, ‘ tender his services,’ not to the Governor, but in defence of his poor colored friend, the crow. It had been said that the crow did great injury to the corn field of the farmer. He (Mr. P.) did not believe it, and he did not believe that the farmers of the State demanded any such law, certainly the true interests of the farmer did not in his opinion demand it. A study of the habits and food of the crow would convince any one that the crows were not the disciples of Dr. Graham, but quite the contrary. Their food was mostly made up of worms and insects, which would do ten times the injury that was ever experienced from the crow, were it not that the crow, by destroying them, prevented injury to corn crops and to all kind of crops.

The crow did not meddle with vegetable substances or with corn, until he had made a thorough search for worms, and made a return of ‘ *non est inventus,*’ and that his appetite was in ‘ *no part satisfied* [laughter]— then, and not till then, did the crow commence depredations upon the farmer's field.

He (Mr. P.) said he believed that if the farmer made proper exertions, he could keep the crows away—the farmer could provide proper ways for frightening them away. Farmers were not generally aware of the immense benefit derived from the labors of the crow. For one, he professed to be a farmer, and had for a long time cultivated a considerable amount of land, and he had yet to learn that crows did more injury than benefit to the farmers' crops. He would relate one instance.

He had a piece of corn between two pieces of woods, in one of which, if anything can be judged by the noise, there was a family of crows. The crows constantly passed over his field of corn, day after day, and hour after hour, without touching a hill, and passed down into a meadow at some distance. He had the curiosity to examine the spot where the crows visited, and he found that the grass was dry and withered in many places, caused by the ravages of the worms under the turf. Here the crows had been protecting the farmer, by destroying the worms which they found there. From that spot the crows had furnished their young with food, and as long as worms could be found did not touch the corn. Farmers did not fully appreciate such efforts of the crow, and the good effects resulting therefrom. There might be some particular instances when injury was done, but all considered the crow of incalculable benefit to the farmer.

Cases were so rare where crows did injury, that he should enter the plea for them in such cases, which was offered by a distinguished lawyer of a neighboring State, that of *somnambulism,* and if this was not entertained, he should consider this whole proceeding as illegal, it being an attack upon an office held by law, for Shakspeare's *reports* have it that crows are the "executors of dead horses." [Laughter.]

He afterwards called the crow the "administrator de bonis non," which he translated as *administrator on bones,* and appealed to his learned friend, the Chairman of the Committee on Education, for the correctness of his translation. [Laughter.] He gave as another reason against the bill, that as crows were not the intruders upon this soil, but the real aborigines and joint occupants of the soil, they should not be driven off until a year's notice. [Laughter.]

Further, they were native Americans, and he was opposed to a law cutting off the heads of natives.

He would further submit whether it would not be better to refer this matter to the Committee of Incorporations, and let them weave around the crows all the restrictive features of laws which have been passed for a few years in this State, and see if they would not conclude that it was a good State to emigrate from. [Laughter.]

Mr. Peabody said he should go against the bill—If such a bill as this passed he should go for one to destroy the mosquito, for the mosquito was the more injurious bird [laughter], certainly more sanguinary.

Mr. Parker, of Fitzwilliam, did not like the features of the proposed bill. It imposed upon the select-men the duty of cutting off the crow's head. He happened to be one of the select-men of the town he represented, and he objected to setting a guillotine in front of his door for the purpose of taking off crows' heads. [Laughter ] If the bill passed he hoped that it would be amended so that the one that brought the crows would cut off their heads.

Mr. Vilas differed with the gentleman from New Ipswich, in relation to the beneficial results of the labors of crows. Perhaps there may be some way to keep off the crows, but it required that the means should be more scientifically understood, than was generally the case at this time, among farmers. Perhaps the gentleman from New Ipswich (Mr. Preston), being half lawyer and half farmer, might weave a net of such a kind that the crow would be glad to keep clear from it.

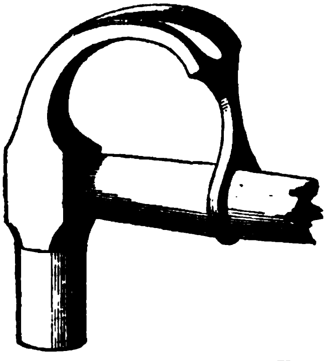
Mr. Preston replied to some remarks of Mr. Vilas, after which the question was taken on the adoption of the resolution declaring it inexpedient to legislate upon the subject, and it was decided in the negative. [A just conclusion—we vote for the crows.]

## APPLICATION OF GYPSUM OR PLASTER OF PARIS.

GROUND plaster, applied as a fertilizer, is so well known, and its properties and uses so well established, that it is presumed that most intelligent farmers are perfectly acquainted with everything concerning it. It is extensively used, and is very advantageous to clover, beans, peas, turnips, cabbages, &c.; but it does not appear to answer so well on natural meadows, for grain crops, nor on wet, or very poor lands, containing but little vegetable matter, nor is it thought to be of much use in places approximate to the sea. It is extensively used in composts in barn-yards and stables, and in neutralizing decayed or putrescent substances, in vaults, urine tanks, &c.; and is advantageously employed with green manures, and as a top-dressing of rotted dung or compost, to which it gives remarkable activity.

The quantity of gypsum used per acre varies from half a bushel to five bushels, depending upon the quantum of substances in the ground on which the component parts of the gypsum operate, or are by them operated upon. In proportion as these are scarce or abundant, the effects are produced in a greater or less degree. And when they are exhausted, or where they do not exist, no quantity whatever will produce any agricultural benefit. If a greater quantity be used, than is required to exhaust the subjects of its operation, the excess will remain inert and inactive until new subjects call forth its powers. Still the gypsum remaining in the soil, on a renewed application of dung, animal, or vegetable matter, will operate, but less powerfully, although it may have remained in the ground for years. Therefore, small quantities, by frequent applications, are much the best, notwithstanding the excess, if applied too profusely, or beyond what the substances in the earth require, will remain in its original state of composition.

## ANDERSON'S PATENT HAMMER.



ANDERSON'S PATENT HAMMER.—FIG. 63.

THIS is a recent invention; the claw, as will be seen by the cut, extending to the handle, and clasping it with a strong ring, which makes it impossible, in drawing nails, for the handle to give way, draw out, or become loose. The face of the patent hammer will thus always remain true, it being kept at the same angle with the hammer. We consider this a very great improvement, and we think it will supersede all others now in use. These hammers are made of cast steel of the best kind, and in a very superior manner. Further description seems unnecessary, as the cut shows all. Six different sizes are now made, weighing from half a pound to one and a half pounds. The price varies according to size, from 75 cents to $1 each.

## PREPARATION OF TOMATOS.

WE condense the following modes of cooking and preserving the tomato from the Ohio Cultivator, which appear to us to be worthy of the attention of housewives and cooks.

*To make Tomato Omelet.*—Take a stew-pan and melt a piece of butter the size of a nutmeg. Mince up an onion very fine, and fry it until quite brown. Add ten peeled tomatos, season with pepper and salt, and stir them until cooked to a soft pulp. Then stir in four beaten eggs, until the underside of the mass becomes brown. Lay a plate on top, turn the pan upside down, and the dish is ready for the table.

*Tomato Marmalade.*—Gather full-grown tomatos while quite green. Take out the stems and stew them until soft, then rub them through a sieve, put the pulp over the fire, season highly with pepper, salt, and powdered cloves, and let it stew until quite thick. The article will keep well, and is excellent for seasoning gravies.

*French Mode of Cooking Tomatos.*—Cut ten or a dozen tomatos into quarters, and put them into a sauce-pan with four sliced onions, a little parsley, thyme, one clove, and a quarter of a pound of butter. Set the pan over the fire, stir the mixture occasionally for three-fourths of an hour, and then strain it through a coarse sieve or colander. It may be served with mutton-chops or a beef-steak.

DANDELION COFFEE.—Dr. Harrison, of Edinbugh, prefers dandelion coffee to that of Mecca; and many persons all over the Continent prefer a mixture of succory and coffee to coffee alone. Dig up the roots of dandelion, wash them well, but do not scrape them, dry them, cut them into the size of peas, and then roast them in an earthen pot, or coffee roaster of any kind. The great secret of good coffee, is, to have it fresh burnt and fresh ground.—*Cottage Gardening.*

HOW TO BOIL GREEN CORN.—The proper state in which to eat green corn, is, at the time that the milk flows upon pressing the kernels with the thumb nail. It is best when boiled in the ear with the husks on, the latter of which should be stripped off when brought to the table. The ears should then be covered with butter, with a little salt added, and the grains eaten off the cob. Over-refined people think this vulgar, and shave them off, but in so doing they lose much of their sweetness.

BEST TIME TO PRUNE PEACH TREES.—The most suitable time for pruning the peach, as well as for most other kinds of stone-fruit, is in autumn, just as the leaves begin to fall, when the sap is in a downward motion. At this period, a more perfect cicatrization takes place, than when the trees are pruned in winter or spring.

## THE ALPACA.—No. 4.

*Reproduction, Propagation, &c.*—The alpaca, in the mountains of Peru, brings forth her young at the age of three years; but in Europe, when highly fed, the age of reproduction is at least a year earlier. On the Andes, as well as in Ireland, she usually receives the male in October or November, and brings forth one at a birth, in the month of April or May. It is remarkable, however, that she should be covered by the male immediately after giving birth to her young, a fact which has been fully corroborated by Thomas Stevenson, Esq., of Oban, in Argyleshire, Scotland, and by Mr. Robert Bell, of Villa House, near Listowel, in the county of Kerry, in Ireland, both of whom are practical and observant farmers, and have successfully raised the alpaca for a number of years. "The female,' says Mr. Stevenson, in a letter bearing date of April 10th, 1843, "was invariably covered by the male two or three days after she had a lamb; and, from the singularity of this circumstance, it attracted my very particular attention, and I regularly marked down the date on which the female was covered, and found that she went with lamb a very few days less than a year." In a communication by Mr. Bell, of March 18th, the same year, he says, "I find they usually copulate here in the month of October or November, although the female takes the ram invariably after having brought forth her young, which is generally in the month of May or June. At the age of nine months (?) the produce of the feminine gender will begin to breed, at which time their wool will be found to be six inches long, and their height to the shoulder thirty-four, to the top of the head, fifty-one inches."

The llama and alpaca, as well as the alpaca and vicuña, can be induced to breed together, and of the former union there are frequent examples to be met with in Europe as well as in Peru. From this alliance a beautiful hybrid results, if possible, finer to the eye than either parent, and also more easily trained to work, but like the mule, it does not procreate,—a fact which has been confirmed by General O'Brien, an observant Irish gentleman, who resided twenty years in Peru, and was actively employed under San Martin, the Liberator, in the War of Independence—a great traveller on the Andes, and besides a landed proprietor and miner in the district of Puno. Subjoined is an extract from a communication by him, dated at Liverpool, June 6th, 1841:—

"You ask me whether the alpaca is still used in Peru as a beast of burden. I answer that it is, but not generally, and only by the poorer class of Indians, who do not own many llamas. There is, however, a beautiful animal produced between the llama and alpaca, much handsomer in form and figure than either, and also better adapted for work, but it does not breed. * * * * In Peru we call them *machurgas*, and these are the animals I principally used at my mines to bring down the ores from the mountains.

"From the sterility of this hybridous race, it would follow that the alpaca is a distinct variety of the llama tribe, differing as much from its allied species, as the horse does from the ass; and, consequently, that the two domestic animals of the Peruvians were not brought to their present state by means of crossing. Their intermixture is a modern expedient by the Spaniards. It is a rule of the vital economy, that life only springs from life, and every being is consequently endowed with the property of generating an offspring, inheriting a nature similar to its own. When the species vary, this rule ceases to act; whence, although possessing a strong physiological resemblance in many important points of their organization, there must necessarily be some material difference between the llama and alpaca in the functions of generation, which it is more than presumable equally extends to the wild species, and that difference produces an irregularity at variance with the laws of nature, constituting an essential condition of life."

It appears from the report of M. Bory de Saint Vincent, a distinguished naturalist, who accompanied the French army into Spain, under Marshal Soult, that he observed in the Zoological Garden of Don Francisco de Theran, at San Lucar de Barrameda, in Andalusia, a female llama pregnant by an alpaca, and also three *alpa-vigonias* (the cross between the vicuña and alpaca), the fleeces of which were much longer, and six times heavier than those of any other variety. The Spaniards were proud of this acquisition, thinking that they had thereby obtained a new race of wool-bearing animals, calculated to people their hills, and repair the loss sustained through the decline in their Merino flocks. By the experiment of crossing, however, they defeated the very object which they had in view, as the animals gradually died off without leaving any offspring, and in the course of a few years there was scarcely one individual to be found in the kingdom.

There are two facts, however, concerning the procreation of the Andes sheep, which ought not to be concealed—one, a difficulty of copulation arising from natural causes, and the other an almost uncontrollable and jealous disposition of the males at this season. The difficulty of copulation, and the manner in which it is overcome by the Indians, were first noticed by Hernandez, and it is said that nothing can be more accurate than his remarks, as exemplified in the practice of the present day. Without the assistance of man, sexual intercourse certainly can and does take place, as seen in the wild races, the structural formation of which is the same; but in the tame ones it invariably gives rise to confusion. In Peru, the rutting season commences at the close of October, when the animals become restless and lascivious, and, according to Dr. Unanue, the estimable writer on the climate of Lima, in 1806, "all nature seems to be in motion; vegetation assumes a new form; earthquakes and volcanic eruptions frequently occur, and the air is filled with an electric fluid. Every production then glows with fresh fire, and by an active stimulus animals are impelled to the propagation and consequent preservation of their own kinds." At this period the working llama has a respite; for it is regarded as unsafe to put a burden upon his back, and indeed dangerous to thwart his wishes, or control his actions. Both the tame and wild breeds, it is said, sometimes fight outrageously for their mates, and instances occur of the combat proving fatal to one or both.

By a letter from General O'Brien to Mr. William Walton, who received a gold medal in 1842, from the Highland and Agricultural Society, for a "Satisfactory Account founded on Actual Observation and Experiment, to naturalize in Scotland, the Alpaca," we learn that "In Peru, the rutting season commences in the month of November, when the male alpaca throws off his tame and quiet habits, pursuing the females until he separates from the flock one of his own choice. Her he woos with the most ardent demonstrations; and if she proves coy and runs away, he follows her through the country for miles, and until his importunities have been successful. At this moment, the flocks of both alpacas and llamas sometimes break up and disperse, running in different directions through the country, and weeks may elapse before the owner is able to collect them again. Hence, when this season approaches, the Indian shuts up his sheep, separating the male from the female, in pens, purposely constructed in such a manner as to allow of their putting their faces together, and caressing each other a week or a fortnight before the day appointed to bring them out."

Owing to the extremely lascivious disposition, however, of the Andes sheep, great care must be observed when the males are admitted to the females. Both by night and by day the shepherd should be vigilant; for besides quarrelling with one another, where two males are allowed to compete for the same female, they might trample her to death. Hence every possible precaution ought to be used to keep them apart. Upon this point General O'Brien remarks, that should the alpaca ever be introduced into Great Britain, on a large scale, and as a national benefit, breeders must adopt the Peruvian mode of separating the males from the females, at least a fortnight before the union of the sexes takes place, and in order to prevent their wandering away.

"In some parts of Peru," Mr. Walton observes, "the *llameros* prepare small folds, in which they shut up one of each sex. The male begins his caresses by antic tricks and boundings; the female, at first, appears shy, and moans, while at intervals one spits at the other. After a day or two they become more intimate, when at length the female, with her fore-legs bent under her, and resting on her breast, assumes that position in which only she can receive the embraces of her mate; but this is not a forced prosternation on her part. It is, on the contrary, the easy and natural posture which she takes when reposing. If she evinces anything like caprice, and difficulties should arise from her repugnance to assume the position required, the keepers place a slip-noose, called *pajal*, on the lower part of the fore-legs, when pulling from behind, they trip her up, and alighting on her breast, with their assistance, she easily receives the act of generation. The state of excitement into which the male has been worked up, is at this moment so great, that he is immediately afterwards turned out separate, and left to repose, never being coupled twice in the same day. One, however, suffices for twenty females."

## PERUVIAN GUANO ON WHEAT AND GRASS.

On the light soils of Long Island, and generally around New York, Peruvian guano has proved, the past year, one of the best and cheapest manures which can be applied to the wheat crop. We think we are safe in saying, that so far as our observation extends, an application of 300 lbs. of Peruvian guano per acre, costing $7 to $8, has produced an increase in the yield of the crop of wheat of from 7 to 12 bushels per acre, and the after benefit of the guano on the succeeding hay-crop, may be counted upon as equivalent to a ton and a quarter of hay extra in the three succeeding years; thus proving that a pure article of guano, judiciously applied, is a profitable fertilizer.

If the soil is not leachy or exposed to be washed by winter rains, we will recommend that guano be applied to wheat, rye, or grass, in the fall of the year, otherwise as early as March the following spring. Some sow guano and harrow it in either before or with the seed. Being so powerful a manure, and when coming directly in contact with the young roots of plants, burning and killing them, we think that this system is more or less hazardous; we would therefore recommend those using guano for winter grain, to let the plant get up about three weeks high, and then sow broad-cast upon it, at the rate of 300 lbs. of Peruvian, or 400 lbs. of African per acre. If the causticity of the guano destroys some or even many of the leaves of the plants, it is of no great importance; for by this time they will have become well rooted, and others will immediately spring up to supply their place. The great benefit of applying guano, and indeed all other manures, to grain and grass crops in the fall, is, that they remain a slight covering to the ground, assist in keeping it warm, are gradually decomposing, and by early spring become soluble and well prepared for the crop to take them up and assimilate their elements for its rapid growth. It has been ascertained in England, that a crop of grass or grain guanoed in the fall, will ripen from a week to ten days earlier than the same would under similar circumstances un-guanoed. Before purchasing guano, we advise every farmer to look about him and gather up and apply all the manure and fertilizing substances that he can find upon or around his premises. Let him remember that a penny saved is twopence earned, and that it is easier to *save* than to earn.

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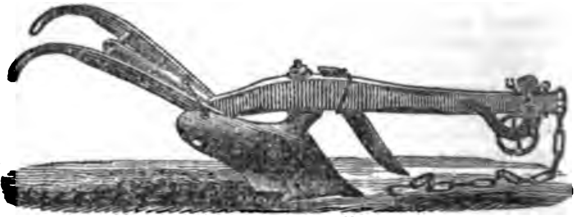
**Deterioration of Barn-Yard Manure.**—Dung, in the opinion of the late Judge Peters, begins to deteriorate after it is one year old. "I have put it on," says he, "after lying several years, without any perceptible benefit. But the practice of plowing in hot and fresh dung, has often been to me a subject of regret. It not only produces smutty crops, inparts,over stimulated, but cannot be equally spread or covered, so that much straw and little grain appear in spots, which often lie down; and, in others, scarcely any advantage is derived. Muck, composted, will keep the longest, without injury to its fertilizing qualities. *Dung* and *muck*, in confined places, from which free air and moisture are excluded, undergo a degree of combustion, and become *dry-rotten*, mouldy, and useless."

## TO PREVENT SMUT IN WHEAT.

Although we have given directions how to prevent the smut in wheat in a former volume, many of our readers do not seem to have read them, and therefore we repeat them. Make a brine strong enough to bear up an egg, be careful that it is not above blood heat, then let the grain soak in it from one to twelve hours, as is most convenient. While in soak, stir up the grain occasionally, and every time this is done, take off the scum, foul stuff, and light seeds that rise to the top of the brine. As the grain is taken out, spread it on a floor or in the sun, and scatter slaked lime, ashes, or plaster, over it, to dry it. Lime is the best material for this purpose, if to be had. It will dry in half an hour in the sun, and is then ready to be sown. Copperas water and urine are frequently used instead of brine to soak the seed; but we much prefer brine, as it is cleanly, and never dangerous in application. Some say grain may be soaked 24 hours in the brine without injury; but if it be a thin-skinned variety, we should think it would endanger its germination to soak over four hours or so. It is a good plan to prepare rye, barley, buckwheat, and oats, for sowing in the same way as wheat, especially oats, as they are frequently as liable to smut.

## SIDE-HILL OR SWIVEL PLOW.

These plows are so constructed that the mould board is easily and instantly changed from one side to the other, which enables the operator to perform the work horizontally upon side-hills, going back and forth on the same side, and turning all the furrow slices with great nicety, downward. This prevents the washing of the soil by heavy rains, to which all side-hills are more or less liable when plowed as level ground. They are much liked at the South for *horizontal* plowing; for by this system of turning up and laying the soil, it is prevented from being washed into those deep gullies, so destructive to the general face of the country. They are also highly useful, and by many much approved for level plowing, as this leaves the field without any *centre dead* or finishing furrow; nor does it make bauks or ridges by turning two furrows toward each other. They are likewise useful in enabling the plowman to turn the furrow *from* his walls and fences. Another advantage, they save much trouble in enabling the team to turn short about at the end of the furrows, instead of obliging it to travel across the wide ends of each land in the field. Price $5 to $14.



Side-Hill Plow.—Fig. 63.

## REPEAL OF THE BRITISH CORN LAWS.

We had the gratification in our last, of announcing the repeal of the exorbitant and odious Custom House duties which have been so long levied upon the importation of breadstuffs into Great Britain, to the serious injury, and often heart-rending sufferings of her people. It is one of the most beneficent acts of the age, and does honor to the men who were instrumental in passing it. The people of Great Britain and Ireland have at length attained the common rights of humanity, and are now enabled to supply themselves with food where it is to be had best and cheapest. We hope henceforth to hear no more cries for bread, from half-famished thousands, when it can be had at a low price from a neighboring country.

It is not, however, as an act of beneficence wholly, that we desire to call the attention of American farmers to the repeal of the British Corn laws, but as one likely to redound to their permanent interests. We are not, and never have been so sanguine in our belief, that their repeal would raise the price of breadstuffs materially on this side of the Atlantic, and if the people of the United States expect any such thing, they will find themselves greatly mistaken; a rise of prices is only to be looked for after a bad harvest in one country or the other. With our widely extended and highly fertile territory, and unprecedented increase of rural population, there is a constant tendency in reasonably favorable seasons, to produce a large surplus of provisions. Now if we were obliged to keep this surplus at home, there must inevitably be a steady fall in the prices of agricultural products, and a greater or less loss every year from the injuries to which such bulky and perishable articles are constantly liable. The ports of Great Britain being now nominally free, we shall easily get rid of our surplus produce, and thus be able to maintain fair prices. If the tillers of the soil will take this fact duly into consideration, they will see that it is likely to be a greater boon to them than fluctuating high prices. Under the former tariff, Indian corn, one of the largest productions in the United States, was virtually a prohibited article—now it can be exported in large quantities.

Notwithstanding the promising harvest in Europe the present year, it would not surprise us if the exportations of corn, wheat, beef, pork, lard, butter, and cheese, should amount to twelve or thirteen millions of dollars. This amount will be steadily on the increase, and in a few years doubtless approximate to twenty millions; while the freight and charges earned by American citizens will be five millions more—and let it be recollected that those engaged in the transportation of these products are consumers, and not producers. Hence the disastrous effects cannot be so great as apprehended by some, as many of our farmers will grow richer by the sales of their produce, our shippers and sailors will find employment, and the country will still prosper.

## FOREIGN CATTLE.

I NOTICE your remarks in the July No. of the Agriculturist, on the subject of *Foreign Cattle*, and heartily coincide with the opinions advanced. The question has often occurred to me, "Do we gain much at the present time by continuing our importation of cattle from England?" It has for some time appeared to me that we have all the materials for improving our stock to any extent, among ourselves; and that we have as fine, well-bred, and as valuable animals among our cattle, sheep, and swine, as could be found in England, with perhaps very few exceptions. It appears to me, we are getting in this respect, as well as in many others, to place too much value on a thing merely because it has been *imported*. I may be mistaken, but it seems to me the practical effect of this continued disposition to look abroad, is to lessen the prices obtained by our enterprising breeders at home, when the home-bred animals are in every respect equal, if not superior, to the commonly imported ones. Occasional importations will continue to be necessary; the fundamental laws of good breeding, and occasional infusion of blood from other races of the same family, demand this; but further than this I can scarcely conceive it necessary at present to go.

Acting upon this principle, I have always purchased my stock at home instead of sending abroad, although many of them were imported. I had the good fortune to obtain some of the Ayrshire cattle you "saw standing in the Ayrshire quarter of the State Cattle Show at Poughkeepsie," in 1844. I purchased the imported bull and cow, together with their produce, and have now in my possession one male, and five females, all thorough-bred Ayrshires, abandoning all other varieties, although I must confess I am well pleased with the cross with the Durham and Ayrshire. For the dairy, I esteem them superior to my full-bred Durhams. It was from a heifer of this cross that one pound of butter was produced from eight quarts of her milk.

The very laudable attempts which have been made to improve our farm stock by importations, and, in some instances, by judicious crossing and good keeping, cannot but prove highly beneficial to our country. Our native cattle, it is true, originally sprang from the same stock as those of Great Britain; and, with the attention to improvement that has been bestowed in England, they would, at this time, probably have been inferior to none. But from want of care in retaining the best individuals as breeders, and from an almost total disregard to purity of blood, and propriety of crossing, in our stock of neat cattle, we are unable longer to identify distinct breeds, and consequently we have been, till within the past few years, retrograding rather than improving in this branch of our business. In Great Britain, the business of rearing, or, in other words, of improving the form and value of domestic animals, has, on the contrary, formed a distinguished and lucrative branch of farming, for the last eighty or hundred years; and the success of the gentlemen engaged in this business has not only greatly increased the agricultural wealth of the nation, but procured for many large fortunes.

The Ayrshire breed of cattle are at present attracting considerable notice, as the attention of breeders has been, in a peculiar degree, directed to the characters which indicate the property of producing milk. They are a tough, hardy race, well suited to light soils, and scant fare.

*Albany, July*, 1846. C. N. BEMENT.

## SOUTHERN AGRICULTURE.

I HAVE for some time past been examining the American Agriculturist, and the interest manifested by it in the South, and the many valuable items of information it contains, induce me to become a permanent subscriber. You will therefore, if you please, forward me the numbers for the present year, from its commencement. While I am writing, perhaps it may not be amiss or irrelevant for me to make a few remarks. There is a gradual change creeping over the minds of the Southern planters in regard to the leading features of agriculture—they are more ready to catch at any improvement, and more eagerly take interest in any novelty in the profession—they do not dislike innovation. This I can readily believe is brought about by agricultural works becoming accessible to the mass, and from the interest which seems to be felt by the scientific in the analysis and synthesis of soils, the application of manure, rotation of crops, deep plowing, and in fact in all matters relating to the business. Feeling, as I do, an all-absorbing interest in the advancement of our profession, I consider it the duty of every man, to add into the common stock every item of practical information, so as to repay, in part, for the advantages he has himself gained from the experience of others. My feeble efforts have always, and shall ever be, for the benefit of farming in the South.

In respect to our worn out lands, it is almost useless for any one to waste paper and ink to write to the Southern planter, telling him to manure. It is well enough for the Northern farmers to *talk*; they can well afford to fertilize their little spots of ten or a dozen acres; but a southern plantation of five or six hundred acres in cultivation, would take all the manure in the parish, and all the force to do it justice. Our plantations are too extensive to manure thoroughly, consequently it is half done, or not done at all. Again; we have no time to haul large quantities of manure to the field; for it generally takes until January to get out all our cotton, and we have to *rush* it *then*, to get time to make repairs, before we go to plowing for our next crop. You might say, why not take part of the hands and put them to making manure, while the others are picking? Because we then would have to leave a great deal of cotton in the field, which would be a loss; and many other things would have to go undone which we should have done. Only place a Northern farmer in our places, and he would be about as bad off as we are—what with waste, depredations, the buying of all we have.

However, not to look all the time on the dark side of the picture, we will see what is the remedy which exists and has existed with us. Our lands have yielded nearly all the nutriment to exhausting crops, by the ruinous system of farming thus year after year the same crop is planted, until the land is totally worn out. I know fields now in cotton, where the same staple has been cultivated for fifteen years consecutively. What wonder, then, that our lands are worthless! Here a judicious rotation of crops, with a proper system of manuring (gradual), cleansing the ground with the cow-pea, soiling with this and other green crops, and if possible wood earth, if it can be hauled and thrown into the drill (it would require too much to lay it broadcast); then small portions of lime, if necessary, to promote decomposition. And here let me say a word in relation to lime. Some of our northern friends recommend from 50 to 300 bushels of lime per acre. This might do among those who have the carbonate within 100 yards of their doors, and get it calcined there; but those who have to import it and have it re-shipped as we do, until a barrel of lime is worth as much as the land, would find it rather an uphill work. We have some cold clayey land to which lime would be beneficial, but not in the large quantities as recommended above.

There are many planters who could afford a few weeks hauling for one or two teams, between the 20th of December and 15th of January. To those I would most strongly advise to make their manure piles after the manner of Bommer; to clean out their stock yards, pens, stables, &c.; put the manure in a pen and add wood earth, ashes, soap suds, dirt, and all kinds of refuse and offal. This by the end of the year would become quite a pile, and thus gradually increasing without any apparent effort, will, in the following spring, greatly increase the fertility of the land. Now, by changing the water furrow and drill, every other year, or every third year, all the land will be gradually enriched. If corn or cotton is planted, I would drop peas between the rows. I think other crops may be made as profitable as cotton, and it is worth the attention of the Southern planter to experiment and publish statements. At this present writing I am trying several experiments with different manures. When arrived at maturity, if you wish it, I will take pleasure in forwarding you a statement. I am growing some Cuba tobacco after the manner of the West Indians. I derived my information from a suppressed pamphlet sent to me from Havana.

I find I am transcending my limits at present, but the subject is so full of interest to me that I must be pardoned. James S. Peacocke.

*Redwood, near Jackson, La., June* 21, 1846.

## REMOVING STAINS FROM CLOTH.

Nothing is more common than the soiling of clothes by grease, oil or fat, acids, inks, sauces and preserves, coffee, varnish, white lead, paint, &c. All of these, if taken in time, may be removed without much difficulty. As the whole subject is too lengthy for a single article, I will treat them in numbers.

1. *Stains from Oils, Fats, or Grease.*—Removed by soap, chalk, white clay, French chalk, or ox-gall. They most frequently occur on carpets and articles of dress. They give a deep shade to the ground color of the goods, and continue to spread for some time after the accident has happened. They hold fast whatever dust falls upon them. On a very dark ground the stain becomes lighter than the rest of the surface, because the dust which rests on it is lighter. Alkalies dissolve most readily these stains, but there is great danger of injuring the more delicate colors; hence they should not be used except by the most experienced scourers.

Any good hard soap will answer to remove the stains from blacks, blues, browns, drab, invisible green, &c., by means of hot water, and the soap and water may be removed by a sponge, rubbing the nap in the right direction. In any delicate colors, if soap be used, we should always first try a piece of the same kind of goods with the agent before using it on the article to be cleaned.

In all cases, where several colors are involved in the stain, as in carpets, it is preferable to use the white clay or French chalk. The latter is better, on account of being easier to remove, although either will answer the purpose, and in the absence of both, common chalk will do as a substitute. The mineral should be reduced to a fine powder, and made into a thin paste with water, and spread over the stain, and when dry removed by whipping with a rattan, and using a brush. The oil having greater affinity for the chalk than for the goods, is thus taken up and removed. If the stain be not entirely removed by the first trial, the process should be repeated.

It may happen that none of the above materials can be obtained on the farm or plantation, at the time when an accident happens, but ox-gall could always be had in such an emergency, and is both safe to use and certain in its efficacy to remove the stains. It requires some preparation, and should be kept on hand for that purpose. It dissolves all fatty or oily bodies, and has a tendency to make the colors brighter rather than more dim.

*Preparation.*—Pour the galls of recently killed oxen into a jar or basin, and after settling 12 hours, pour off the clear liquid into a shallow basin of copper or earthenware such as would float on a like basin partly filled with water. Now apply the heat of a charcoal fire to the latter, and by means of this water-bath evaporate the gall to the consistence of molasses, or thin paste. Now remove it from the basin, and spread it out on a shallow plate before the fire, and there let it dry, until it becomes quite solid, not horn-like, but only so as to be yet somewhat flexible in the fingers. Put it by in earthen jars loosely covered, for future use. When it is required, dissolve a small portion, enough when dissolved to cover well the stain, in 12 to 15 times its bulk of hot water; spread it on the goods, and when it has remained long enough to perfectly saturate them, add a little more, enough to make the stain thoroughly wet; remove it, by rubbing with a sponge, until the stain is removed.

It must be remembered that a recent stain is removed very easily, while one of long standing requires more effort to remove. I will next point out the method of removing stains of acids, ink, and iron rust. G.

*New York, July,* 1846.

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Cure for the Yellows in Peach Trees.—On the first symptoms of the disease, grub up the trees, and commit them to the flames.

## MANAGEMENT OF HONEY-BEES.—No. 3.

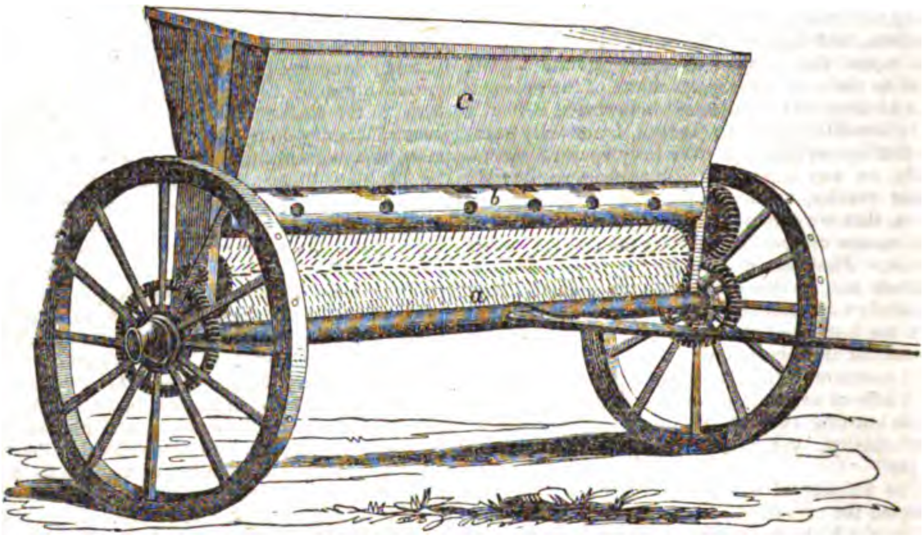
The bottom being hung three-eighths of an inch from the body of the hive, affords ingress and egress from all sides, which contributes greatly to the success of the bees, for the reason, that they are enabled to perform much more labor than when restricted to a single opening in front, on the ordinary plan. When they are confined to an entrance of a few inches, the clusters of idle bees that almost constantly, in the heat of summer, hang about the entrance of every strong stock, prevents, in a great measure, the entrance of the workers, or, at least, retards their operations, and after having gained admission, they are then compelled to force their way through a solid mass of bees, to such parts of the hive as they wish to attain; whereas, if admission is afforded on all sides, they can enter on such side as they wish to deposit their honey, pollen, or farina, whatever it may be, with no obstruction, and depart in the same easy manner. I look upon this system of arranging the bottom board as the most important branch of the management of bees, and of sufficient importance to justify me in dwelling upon it. Indeed, I am fully satisfied that no system can ever fully succeed *permanently*, on any other plan. It appeals so forcibly to our reason, as a mere matter of ingress and egress, that we cannot but admit its necessity; yet, as a means of *ventilation*, it is of no less consequence. That bees require the healthful influences of fresh air, in the greatest possible degree, does not admit of a doubt in my mind, yet it must come from the bottom of the hive; and to stop up every avenue for the admission of air to hives, except a small aperture in front, and then place them on the south side of some close fence or building, exposed to the burning rays of the sun, I consider downright cruelty, yet this is the practice of many people.

The subject of ventilation of hives has long occupied the attention of bee-masters, the different modes of which are too tedious to mention; suffice it to say, that in my opinion, no air should be admitted at any place except at the bottom. Let us look into the philosophy of this. Bees, while in the embryo state, require a heat of at least *seventy* degrees, in order to arrive at maturity. This heat is artificially produced by the bees when the temperature is lower without the hive; now, if a ventilator is placed at the top, or side of a hive, near the top, the only effect must be to operate to the detriment of the larva in its natural state of development, by causing a current of air to flow among the brood combs, rendering the natural heat of the hive, in certain parts, below what is requisite to bring the young broods to maturity. This, as I view it, is placing a strong barrier to the natural and successful operations of the bees, as nature intended them to be, in the matter of the re-production of their species. Again, if we examine the operations of the bees, we find them carefully cementing every crack and corner of their domicil above, and if any small aperture is made, though the rains cannot possibly penetrate in any situation, yet they close such openings with great care, when not too large, which, to my mind, is conclusive evidence that it is not necessary that they should have any ventilation above the bottom of the hive, presuming that the bees would never take the pains to so closely cement the upper structure of their hives, if it were necessary that they should have ventilation in that quarter. Now, a few more words regarding ventilation *below*. I have found that the more the fresh air is infused among the bees at the bottom of the hive, both in summer and in winter, the healthier are the bees—the greater their increase—the fewer die, and when spring opens, my hives are full, strong, vigorous, and healthy; in fact, I am astonished at their appearance, being but a very few bees less in March than there were in November preceding. These facts taken into consideration, satisfy me that my plan of hanging the bottom-board is absolutely necessary to perfect success. I do not say that it is solely my plan. I believe it was first practised in the Eastern States.

Having settled the matter of size of hives, &c., the next point is the bee-house or bee-stand. Bee-houses I condemn *in toto*. If I had a dozen prosperous hives of bees, and wished to get rid of them in the course of a year or two, I could not more effectually do it, than by housing them up exposed to a hot sun, and the cool air excluded from the back and ends. The winter season would do the job for them, if placed in some very warm nook or corner, where the rays of a mid-day winter sun would raise the thermometer to about 50 or 60°, when in the open fields it would stand, say at 30 or 40°. This is the way many people do. They think if they but place their bees in some nice warm place in winter, where the bleak westerly winds cannot reach them, they are safe enough. This is the very best way to *destroy* bees that I know of, except the brimstone method. All you have to do is to let them stand, and almost every clear still day, when the thermometer in the open fields would stand at about 35 or 40, hundreds will be allured forth, by the false temperature immediately around them, never to return. But the best sport of all is immediately after a heavy fall of snow, when the sun shines clear and warm, just around the hives. It is a most capital trap for them. The silly bees take it for granted that there is no difference in the surrounding warmth, and they come out by thousands—fly a few rods—give a wheel or two, and drop down on the snow. It is a beautiful sight to see one's bees all lie dead upon the snow, or it would not be practised to so great an extent! Some people who dislike seeing them killed off that way, prefer closing the entrances, and causing their death by partial suffocation, or artificial heat produced in the hive by the rays of the sun, without any opposing coolness from the rear, to counteract it. In this way most of the bees may be taken out dead about the first of March. For my part, I am not partial to this amusing way of killing bees; I like to have my hives as full in February and March, as in the fall previous, so I follow a different plan. I hang them up in the open air in the following way. I select a place as near my house as convenient, in which there can be no deception as regards the general temperature of the atmosphere. I do not shun a northerly or westerly exposure in the least, nor do I want any board fence, shed, or any other building, to be within some rods, if possible. I then take chestnut, or southern pine joists, twelve feet long, and cut them in two in the middle, giving six feet to each. Two pieces, of six feet in length, form the supports of two hives. I sink them eighteen inches in the earth, at such a distance from each other, that when a strip of board is nailed horizontally to the inner side of each joist, on a level with the top, a hive with a strip of deal one inch square nailed to two sides, where the division-board is placed, say one foot from the bottom, will fit in between the joists, and rests upon the upper edges of the boards, as before named, nailed to the sides of the joists. The pieces attached to the joists should be at least 28 inches long, in order to leave 12 inches projection on either side. They may be from six inches to one foot wide in the centre, and run to a point at each end. It will be perceived, that a hive can be hung on each end, which will bring them three feet six inches from the ground. They should never be nearer the ground than one yard, as the vapors arising from the earth after rains in warm weather, are very injurious. The strips of deal should be placed on the front and back sides of the hives, in order to have them both front the same way. I thus continue till I have hung all my hives, taking care to leave about 15 inches space between the hives of different stands, so as to allow of their being removed at pleasure. T. B. Miner.

*Ravenswood, L. I., August 1st,* 1846.

## SEED-SOWING AND PLASTER-SPREADING MACHINE.



Seed-Sowing and Plaster-Spreading Machine.—Fig. 65.

This machine is mounted on two wheels, the axle-tree of which carries two standards, supporting a long hopper, marked *c*, in the above figure. One wheel carries a gear-wheel, which works into another gear-wheel, inserted on a shaft set in the standards, and connected with a long cylinder, *b*, directly below the hopper, *c*. This cylinder has a number of cups formed by holes bored about 1½ inches deep, which depth is regulated by large-headed brass screws, with heads about the size of the calibre or bore of the cups. In the bottom of the hopper is a board made to fit close to the upper part of the cylinder, *b*, with holes in it, which are so arranged as to come directly over the cups. Each of these holes has a small sheet-iron slide to shut off the supply of seeds from the cylinder, *b*. The other carriage-wheel carries another wheel geared into a small pinion fixed to the cylinder, *a*, which is also set on the standards on the axle-tree, and is armed with numerous pegs or pins. The size of these several gear-wheels is so adjusted that the lowermost cylinder moves six times faster than the upper.

The operation of the parts is as follows:—The machine is first drawn to the place where it is to be used, by horses, and the hopper filled with seeds. The small sheet-iron slides are then withdrawn, and the whole set in motion. The seeds, in descending through the holes in the board above described, fall into the cups or holes in the cylinder, *b*, and, after being carried partly round, drop on the cylinder, *a*, which moves at a greater velocity than the cylinder, *b*, and by means of the small pins become scattered after the manner of sowing broad-cast.

For spreading lime, plaster, guano, &c., the board in the bottom of the hopper is to be taken out, and the iron slide on the back of the hopper is to be so adjusted, vertically, by means of the screws, as to allow a sufficient quantity of plaster to escape from the hopper to the cylinders below, and be scattered after the manner of the seeds. The machine may be followed by a harrow, roller, or any other implement used for covering seeds with earth, or for raking in lime, plaster, or guano.

Price of six feet cylinders, $60. Ditto nine feet cylinders, $70.

Wm. J. Jones and H. C. Smith.

## REMEDY FOR COLIC IN HORSES.

One of your subscribers having been so unfortunate as to lose several of his mules by the colic, desires, through your useful publication, to obtain some information on the subject. I will inform him of my treatment in such cases, which has always proved successful. As soon as the animal is attacked, prepare a strong decoction of soot tea, to which add half a pint of whisky; pour down the throat with bottle or horn; and if relief is not obtained in a few minutes, give an injection of soap suds, with a gill of strong decoction of tobacco, and a little salt added—and if this does not give relief, and an operation is not produced from the bowels, repeat the injection.

My general practice is, to have placed in the cutting and feed-house, a small box of lime, one of ashes, and one of salt, or a barrel of salt and water, which is much better; the oats and fodder are always passed through the straw-cutter, and before fed to the animal a small quantity of the pickle is poured on, with the addition of a large spoonful of the ashes and lime. This is added once or twice a week during the spring and fall. As soon as I can procure a mill for grinding the cob and corn, I shall apply the mixture to that feed which is more preferable. I have pursued this course for the last six or eight years, with success, and can recommend it to my brother farmers as practical, and not theoretical, as book-farming and knowledge are so often asserted to be by prejudiced and anti-improving farmers.

*Washington, N. C., June,* 1846. J. B. M.

## NEW VARIETIES OF POTATOES FROM SEEDS.

In autumn, soon after the appearance of the first heavy frosts, let the potato balls or apples be gathered, macerated in water, the seeds separated from the pulp, and placed in some convenient place in the shade, to dry; after which they may be packed up in an air-tight box or bottle, and kept until required for use. As few of the early sorts produce blossoms, in order to produce seeds from them, deprive the plant of its tubers as they appear, and keep the runners from which they proceed above ground, by not earthing up the plant, and blossoms and seeds will soon appear. About the first of March, let them be sown in a hot-bed, in lines six inches apart, a quarter of an inch deep, and very thin. When water is necessary, sprinkle it between the lines, but avoid wetting the plants, as that would injure them, taking care to give them a little fresh air before they are watered. As the plants increase in size, rich earth carefully put between the lines will add fresh vigor to them; but the tops of the plants must not be covered by the mouldings, which should occasionally be repeated until they are fit for transplanting. To prepare them for this, about the first of May, they must be plentifully refreshed with air; and, two hours before removing them, they must be copiously watered *all over*, and the glasses covered with mats, to prevent the sun, if shining at the time, from scorching the plants. Let each plant be taken up carefully, with a ball of earth attached to it, and plant them in trenches, after the manner of cultivating celery, only with this difference, the distance from plant to plant, in the lines, must be eighteen inches; and if the sun should be shining out strong at the time of planting, a flower-pot or any other convenient article may be placed over each, to prevent flagging; for, with all care exercised in taking them up, a good many of the fibres will be broken. After the plants have established themselves, remove the pot, and earth up occasionally, as long as the space between them will admit of it. The best manure employed in the operation is a mixture of fine turf and rotten horse-dung.

In plants produced from the seeds of the same ball, no two stems will, in all respects, possess the same qualities; yet, many of the tubers will have so near a resemblance to each other, that, when they are mixed together, they cannot be distinguished by the eye, though it may happen that one variety will be four times as prolific as the other, or may be much better in other respects. The tubers raised from the seeds of the same ball, are also prodigiously diversified in regard to *color*, being black, red, white, green, yellow, pink, &c.; to *shape*, as round, knobbed, and varied in all proportions; to *size*, some of them being no larger the first year than peas, while others exceed the size of a pullet's egg; to *earliness*, some of them completing their growth in July, while others will not put forth their blossoms before October; to *productiveness*, some yielding more than two hundred, while others will give only three or four; to *spreading under ground*, some running out to a great distance, others growing quite near to the stem, some descending deep into the earth, while others will rise to the surface; to *quality*, some being tough and watery, some dry and mealy, some very pleasing to the taste, and others will not be palatable at all; and as to *stems*, some will carry a single stalk, like a rod, others an immense profusion of them, some being very luxurious, while others will be extremely dwarfish. In short, what is very remarkable, no sort of connection will be found to exist between any two peculiarities. Few plants which may resemble each other above ground, will often be found extremely dissimilar below the surface; while two tubers that apparently resemble each other, will sometimes be so different in quality, when tried for eating, that one will perhaps be among the best, and the other among the worst of the parcel. Hence the benefit that may be derived by a cautious selection from seedlings is obvious, as well as the evil consequences that may accompany a careless procedure in this respect. B.

Superior Corn Bread.—In stopping at Bement's American Hotel in Albany, a few weeks since, I do not know when I relished any food better than I did some excellent corn bread, which I found on his breakfast table. I was so well pleased with the article, as well as with the general character of his house, that I begged of him to furnish me with a recipe for making it, which is as follows:—

Take 3 quarts of milk, a little sour, 7 eggs, 2 ounces of butter, 1 teaspoonful of salæratus, and mix with Indian meal, to the consistency of a thick batter, and bake with a strong heat. The pans used for baking are of tin, 8 inches in diameter, 1½ inches deep, and a little bevelled. The above is sufficient for seven loaves. A Traveller

## FRENCH BREAD.

The bakers in France commence their operations at five o'clock in the morning, by mixing 5 pints of water, and 3 lbs. of leaven, reserved from the last baking, and as much flour as will make a paste, weighing 17 lbs. Ten hours afterwards they add 10 or 11 pints more water, sufficient flour to make a paste of 40 lbs. weight; two hours afterwards 24 pints more water, and flour enough to make a paste of the weight of 120 lbs. From this paste they cut off a portion of three pounds in weight, to serve for the leaven of the next day's baking. Then, four hours afterwards, they make a new addition of 100 lbs. of flour, and from 70 to 80 pints of water, and which will yield a mass of about 300 lbs. weight. They then begin to beat the paste, and when it is well kneaded, they separate about 80 lbs. of it, which is to serve as the leaven for the next baking. This paste is so fluid, that the loaves cannot preserve their form before they have been exposed to the heat of the oven. For the second baking, after having mixed the quantity of flour necessary, by kneading it, they add the paste reserved from the former baking, and when the mass is finished, they cut off a part weighing 80 lbs., and thus they proceed a third time, a fourth, and so on, until they have made twelve bakings. They thus continue to work for several days together, only they modify it after every fourth baking, by adding what they term a young leaven to the paste which each baking had impaired or weakened. If they would introduce into the paste either salt or yeast, they thin it in a proper manner with water, which contains yeast or salt in solution. They also use yeast for the soft bread. A quarter of a pound of the yeast from beer is equal to 8 lbs. of the paste leaven, so that 4 ounces of yeast are equivalent to 20 lbs. of the paste. The paste in which they have mixed the yeast, must not, however, be mixed with that containing leaven. —*From the French.*

Succotash in Winter.—Take, when green, your corn either on the cob or carefully shelled, and your beans in the pod, dip them in boiling water, and carefully dry them in the shade where there is a free circulation of air. Pack them up in a box or bag, in which they should be kept in a dry place; and succotash may be made from them as well in winter as in summer.

How to make Succotash.—To about half a pound of salt pork add three quarts of cold water, and set it to boil. Now cut off three quarts of green corn from the cobs, set the corn aside, and put *the cobs* to boil with the pork, as they will add much to the richness of the mixture. When the pork has boiled, say half an hour, remove the cobs and put in one quart of freshly-gathered, green, shelled beans; boil again for fifteen minutes; then add the three quarts of corn and let it boil another fifteen minutes. Now, turn the whole out into a dish, add five or six large spoonfuls of butter, season it with pepper to your taste, and with salt, also, if the salt of the pork has not proved sufficient. If the liquor has boiled away, it will be necessary to add a little more to it before taking it away from the fire, as this is an essential part of the affair.—*Western Farmer and Gardener.*

## MR. RANDALL'S MERINO SHEEP.

On reading Mr. Bingham's last communication, I addressed a note to Col. Randall, desiring him to signify what answer he wished me to make to Mr. B.'s proposition. I received the subjoined reply;

"I decline Mr. Bingham's proposition to send fleeces to Lowell, there to be compared with those of his Rambouillets, by Mr. Lawrence; *first*, because it would not comport with arrangements which I have made for the disposal of my wool; and, *secondly*, because having consented at your instance to show at the State Fair at Auburn, I cannot see any good reason why Mr. B. should object to either the place or the tribunal. The viewing committee at Auburn, to which the wool would have been submitted, consists of Robert A. Reed, of Washington, Pa.; Edward A. Leroy, of New York; William B. Smith, of Woodbury, Conn.; *Samuel Lawrence*, of Lowell; S. Newton Dexter, of Oriskany. With the exception of Mr. Reed, I never have *seen* any of the above gentlemen, and I know not that any of them, including Mr. Reed, have ever seen any of my sheep, or any of my wool, or expressed any opinion in relation to either.

Before such a committee,—deciding where assembled thousands could examine and review the grounds of the decision, I should have been happy to have compared specimens of wool, or if desired by Mr. B. the entire fleeces—or the *sheep themselves.* I entertain no suspicion of the integrity of Mr Lawrence, nor do I know that he is any way prejudiced in the premises, but I must confess that I am somewhat surprised that a proposition of this kind is made in answer to mine. Henry S. Randall."

In closing this correspondence with Mr. B., I have only to say, that I have entertained no prejudice against the Rambouillets; nor am I in any way interested in decrying them. I did believe, and now believe, that even *taking the statements of their friends*, so far as any have been made, we have better American sheep.

The average weight of these Rambouillet sheep has never been given! Why is this? If Mr. B. is perfectly willing, we should like to have the average clip this year stated, giving the number of ram's fleeces of two years' growth, &c L.

*Cortlandville, July 31st*, 1846.

## ADULTERATION OF MILK.

The subject of the adulteration of milk was some time since investigated with great care, by M. Barruel of Paris. Although his observations were intended to apply only to the milk of that city, yet there is little doubt that they will also be found applicable, in a greater or less degree, to all large towns and cities. He commences in stating that *all instruments* for ascertaining the purity of milk, which are designed to attain this end by indicating differences in its density or specific gravity, are *inaccurate and useless* (*a*). For, on the one hand, pure milk differs much in its density, according to the fodder used by the dairy-man for his cows, the butyraceous matter which imparts lowness of density, being made to preponderate by some kinds of food, and the caseous part, which increases its density, being made preponderant by other kinds. And, on the other hand, although water, the ordinary substance with which milk is adulterated by the dealers in the French metropolis, would alone cause a great diminution of density, the dealers know very well how to prevent that effect, and thereby render the aerometer or lactometer useless. For this purpose, it is only necessary to dissolve in the milk a little sugar or sugar-candy, which is required at all events, in order to correct the flat taste imparted to milk by diluting it with water. The result of M. Barruel's inquiries on the adulteration of milk in Paris, was, that no positively noxious substance was, in any case, found in it; that a common practice was to remove a considerable portion of the cream, by allowing the milk to stand for a limited time, and then to dilute the remainder, or skimmed milk, with water, and to give it the apparent qualities of new milk by one or other of the methods now to be mentioned. The opacity of the milk being much diminished by the water, so that it acquired a bluish appearance, it was at one time usual to correct this defect, by previously mixing wheat-flour with the water with which the milk was adulterated. But this deception was too obvious to the senses. Any person, even of indifferent delicacy of palate, could detect the altered taste of the milk; and besides, after two hours' rest, the flour precipitated to the bottom, and the translucent blueness was restored again to the milk. To prevent this inconvenience, the dealers boiled the flour in the water before mixing it with the milk; and, in this manner, an opaque mixture was obtained, which retained its opacity on standing. As even with this addition, the fabricated liquid had a flat taste, sugar or sugar-candy was dissolved in it, by which means the peculiar sweetness of the milk was nearly restored. This adulteration, however, had become so easy of detection by means of iodine, which renders a mixture of boiled flour and water blue by its action on the fecula of the flour, that M. Barruel was in a belief, that the fraud now described had been but little practised in Paris. Driven from this species of adulteration, the dealers resorted to another mode, so ingenious, that M. Barruel conceived they could not have discovered it without the aid of some scientific person. The method is so simple and cheap, that for one franc (18¾ cents) the opacity and color of milk may be imparted to fifteen quarts of water, and so far secret that no disagreeable taste can be detected. This is nothing more than the employment of an emulsion of almonds, for which some dealers, more greedy and less cautious than the rest, substituted hemp-seed, which, however, is liable to impart an acrid taste. By either of these means milk may be diluted to an indefinite extent; and the only corrective required is a little sugar or sugar-candy, to remove the flat taste. A peculiar advantage possessed by the latter mode of adulteration over every other, is, that the vegetable animal matter, or vegetable albumen of the emulsion, by which the oil of almonds is held in suspension, is coagulated or curdled, precisely like casein, by the addition of acids. This mode of adulteration, however, may be readily detected by the two following circumstances, viz.;—The coagulum or curd, formed by acids in the mixture of milk and almond emulsion, as compared with that formed in milk alone, is but a little more than one-half; and the facility with which, by kneading the coagulum with the fingers, oil may be squeezed out of the almond curd, while none exists in that of the milk alone.

Another adulteration to which milk is subjected in Paris, is to add a small quantity of sub-carbonate of potash, or of soda, which saturating the acetic acid as it forms, prevents the coagulation or separation of curd; and some of the dealers practise this with so much success as to gain the reputation of selling milk that *never turns.* Often when coagulation has taken place, they restore the fluidity by a greater or less addition of one or the other of the fixed alkalies. The acetate of potash, or of soda, thus formed, has no injurious effects on health, and besides, milk naturally contains a small quantity of acetate of potash, but not an atom of free carbonated alkali. Hence the detection of this mixture is evidently the most difficult of the processes recommended in the various adulterations mentioned in M. Barruel's paper. Indeed, a chemist alone could conduct it; while the two former modes may be easily performed by any person of common observation.

A FRIEND TO HEALTH AND HONESTY.

*New York, Aug. 14th,* 1846.

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(*a*) The only instrument that can be of any use in determining the qualities of milk, must be constructed upon the principle of the Scotch cream-gauge or lactometer, described on page 171 of the present volume.

## CROPS IN MIDDLE GEORGIA.

WHEN I had the pleasure some three or four weeks ago of looking through your extensive Agricultural Implement Store, I promised to give you some account of the crops in Middle Georgia. At the time I left home, about the 10th of June, it had been raining for a week or ten days, and it was apprehended that the wheat and cotton crop was likely to be much injured. I have delayed, therefore, till now, that I might give you a more satisfactory account of the products of that part of the State.

It has generally been supposed, that the Southern States were unsuitable to the profitable growth of wheat; this opinion is certainly a mistaken one, as the facts of the last few years have proven. Ten years ago, and even less, the wheaten flour consumed in Georgia, was supplied chiefly from the Northern States. At present the interior, and much of the city demand, is the product of the country, an article too, which, in every respect, compares favorably with the best Northern; in some respects it is superior, containing more gluten, and less starch. I had an opportunity about the middle of May, of observing the crops, from within 20 miles of the Chatahoochee, to Augusta, a distance of about 203 miles. The wheat was decidedly more promising than the fields which I saw through North Carolina, Virginia, or Maryland, along the line of the railroad. This crop (I learned from a variety of sources to be relied on) has been secured without much loss from rain, rust, or any other cause, and is superabundant. Wheat may now be purchased in Middle Georgia for 50 cents a bushel, and in the upper county at 37½ cents. The corn crop is also very promising, and indeed at this time is (the early planted) mature. It is believed that it will be purchased at gathering for 12½ cents a bushel, in the Cherokee counties. With the very great capacity of the Southern States for the production of bread-stuffs, and indeed food of all sorts, for man and beast, it is not to be supposed that they will be dependent upon their neighbors. Their true policy, at the present price of cotton, is to direct a part of the labor of the country to the production of provision crops, stock, &c., in which case the product of cotton would be diminished, and according to the law of supply and demand, the price increased, and the lands preserved, if not improved. Under such circumstances, the Southern States might be exporters of bread-stuffs, as well as of cotton, tobacco, and rice, which, by the by, furnish the basis of all the great commercial operations of the United States, being in fact the surplus productions of the country, which other people want.

The cotton crop, from various accounts, is very backward, but more promising than was expected a month ago—a large crop is, however, not anticipated. **Wm. Terrell.**

*Sparta, Georgia, Aug. 3d,* 1846.

## DROVERS' DOGS—BOXER AND ROSE.

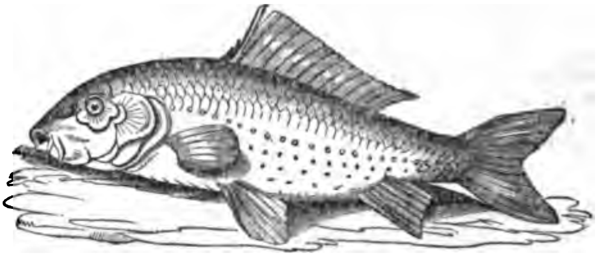
The annexed cut represents Boxer, the English Cattle or Sheep Dog, and Rose, a Scottish Colley Slut, which were imported by B. Gates, of Gap Grove, Lee County, Illinois; and were selected with great care in Europe. The Colley is much better known in this country than the English breed, which is a heavier dog, uniting strength with intelligence, and therefore better adapted to protect from wolves or sheep-killing dogs. Yet he would not be able to conquer the Large Grey Wolf alone; but those are not often met with, unless in parts thinly populated. Our greatest enemy in Illinois is the Prairie Wolf, which is numerous.

Drovers' Dogs.—Fig. 66.

Much has already been written on the intelligence of the Scotch Colley. My opinion is that the English "Butcher's Dog" is no way lacking in that point. Any reader who has visited Smithfield Market, in London, on Monday or Friday, will, no doubt, have formed the same opinion. There you have an opportunity of seeing a number of these useful animals at their work. It would, in fact, be almost impossible to conduct this Market without their aid. There a vast number of different flocks are brought for sale from all parts of the country, to supply this great Metropolis, and are collected in the smallest possible space. The difficulty of keeping them from mingling with others, falls principally on the dog. If one slips away, or a particular one is wished to be caught, it is pointed out to him and is turned back, or held till the owner takes it—the dog always holding them by the side of the head, so as not to bruise the body. By a word, or motion of the hand, they will run over the backs of the sheep, to stop them or turn them in a different direction. I have often admired with astonishment their quick and intelligent actions. They appear to read the thoughts of their master by his countenance, for their eye is continually on his, or on the flock. Nothing else can attract his attention when he has work to perform, and at times I have thought he acted with more judgment than the owner.—*Farmer's Library.*

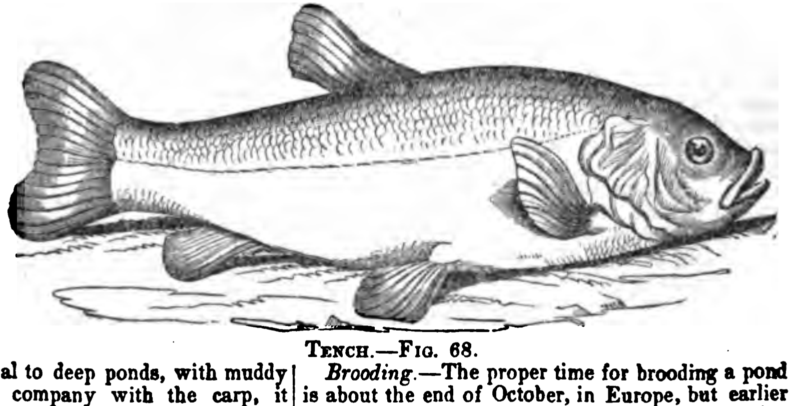
## DOMESTIC FISH-PONDS.—No. 4.

*Choice of Fish for Stocking the Ponds.*—The tench and carp thrive well together, and of all fishes they are the least inclined to animal food, living chiefly on seeds and herbage, and even swallowing mud and slime; also the larvæ of insects and worms. Among the numerous varieties, Boccius recommends the English or round-bodied carp, but most especially the *spiegel* or mirror carp, so called from the beautiful blue-mottled scales along the sides, much larger than those of the rest of the body. If the pond is not overstocked, the carp will thrive and become so tame that they will rise to the surface at the ringing of a bell, to be fed. In August and September they will bask in the sun on the surface of the water, and sometimes gambol about like so many porpoises. They will scarcely retreat at the approach of any one, and will even allow themselves to be handled. They will attain a large size, and live to an age of 150 to 200 years. Brood carp, in Europe, of three years' growth, generally weigh from three to four pounds; in six years, from eight to ten pounds, and after that, the increase is from one and a quarter to a pound and a half every year, until they arrive at a weight of thirty pounds, when it may be calculated that the fish is twenty years old. A spiegel carp, however, at sixteen years of age, has been known to weigh thirty-one and a half pounds. Boccius states that he has seen a pair of carps taken out of a pond, the male of which weighed forty-three pounds Saxon (46 lbs. Avoirdupois), and the female forty-eight pounds. Some years afterwards the same fishes were taken again, when the male weighed fifty-two pounds Saxon, and the female, fifty-five pounds. In warmer countries they attain a much larger size, and grow, as stated by Cuvier, to the length of four feet. Under favorable circumstances, the fecundity of this fish is very great, no fewer than 700,000 ova having been found in a single carp; and this property is thought to increase with age. The ova are deposited upon weeds, among which the female is followed by two or three males, in the months of May and June, in the British Isles; and they are in best condition from October till April. The carp is very tenacious of life, and may be preserved out of the water for a considerable time, especially when covered with some moist substance, in cool weather. In Holland, it is sometimes suspended in nets full of moss, in a damp cellar, where, being moistened with water or milk, it is said, it will not only live, but actually improve, under the process.



Carp—Fig. 67.

A ten-pound well-fed carp is considered a great delicacy; but the flesh of a thirty-pound fish is tough; indeed, when they much exceed ten pounds, they are fit only for breeding. The flesh-like membrane in the roof of the mouth of the carp has been falsely called a tongue. Walton, who believes this, says, quaintly enough, "The tongues of carps are noted to be choice and costly meat, especially to those that buy them." The tongue of a carp is very small and slender.



Tench.—Fig. 68.

The tench (*Tinca vulgaris*) is a thick fish, rather short in proportion to its length, with the color of its back, its dorsal and ventral fins of a dusky hue, and its head, sides, and belly, of a greenish cast, most beautifully mixed with gold. It sometimes attains a considerable size, often weighing 10 or 12 pounds. It is extremely partial to deep ponds, with muddy bottoms, where, in company with the carp, it buries itself in the mud at the same period. In this state it remains torpid during the winter months; and, as spring advances, it quits its slimy bed; spawns, in Europe, from June to September. The female, as stated by Yarrell, is usually attended by two males, that follow her from one bunch of weeds to another, upon which the ova are deposited. The ova are very numerous, there being, according to Bloch, nearly 300,000 in a fish of four pounds weight.

The tench, in England, is reckoned as a wholesome and delicious food; but the Germans are of a different opinion. By way of contempt, they call it the shoe-maker. Gesner even goes so far as to say that its flesh is insipid and unwholesome; but this diversity of opinion is to be ascribed more to the difference in feeding them, than to other external circumstances. Both the carp and tench thrive well on boiled potatoes, or Indian meal.

It is remarkable that no fish of prey will ever attack a tench, which, it has even been supposed, acts medicinally on other fish. In Germany, it is called the *doctor-fish*, and Walton calls it the "physician of fishes," especially to the pike; for, "the pike," says he, "being either sick or hurt, is cured by the touch of the tench. And it is observed that the tyrant pike will not be a wolf to his physician, but forbears to devour him though he be never so hungry." If there be any truth in this supposition, it may arise from the glutinous, slimy quality of the skin of the tench; for it is certainly affirmed by many naturalists of repute, that when fish have been wounded by the fangs of an enemy, or struck by a hook, they have frequently been observed, and taken in company with the tench. For this reason it has been recommended that in stocking a pond with fish, a proportion of them be of tench.

*Brooding.*—The proper time for brooding a pond is about the end of October, in Europe, but earlier in the northern parts of the United States. Boccius recommends for every acre of water in extent, 200 brood carp; 20 brood tench; and 20 brood jack or pike, all of one season's spawn. Each of the successive ponds is to be stocked in like proportion;

that is, the second pond the year following the first, and the third, again a year later, so that each will then come round in its turn, to be fished. By this arrangement there will always be a superabundant quantity of brood in store, to restock the stew-ponds, and sufficient left for sale.

By overstocking the ponds, the fish become sickly, lean, and bony; and it is stated as a remarkable proof of the care required in this respect, that if the proper number of fish be stored, the weight in three years will prove equal to what it would have been, had twice the number been put in; so that the smaller number actually produce the same weight as the larger from a given area of water.

*New York, August* 15, 1846. D'Jay Browne.

The Tomato.—Thomas Jefferson Randolph, the *protegé* of Jefferson, in an address before the Agricultural Society of Albemarle county, Virginia, delivered some time since, stated that Mr. Jefferson could recollect when the tomato was cultivated as an ornament to the flower-garden, and deemed poisonous.

## PRACTICAL FACTS ABOUT PORK AND BACON.

*What is the loss in weight on making pork into bacon?* This question is often asked, and every farmer, particularly in the West, ought to know how to answer it. As a general and safe rule, from facts, within my own knowledge, I have always contended that it is better for the purchaser to buy pork in the hog, and make his own bacon, when he can do it for one half the price per pound, than to buy it ready made. That is, if pork is usually worth 3 cts. and bacon "hog round," 6 cts., it is better to buy the fresh pork. I am writing for the West, and in Western language. That your Eastern readers may understand, I will say that "hog round" means 2 hams, 2 shoulders, and 2 sides—out of which latter the bones should always be taken. I always trim off belly pieces for lard. Hams and shoulders too are well trimmed. The method of salting often astonishes some of the new emigrants from Yankee land. Nobody ever made better bacon for 15 years than I have, and I never use a pork barrel. I sprinkle about 2 oz. saltpetre and 6 lbs. of N. Y. salt to a hundred of pork, piled up on a bench, or in the corner of the smoke-house, like a pile of bricks. I let it lie about as many days as the hams weigh pounds each—overhauling once. Then hang up far away from the fire, in a very open and airy smoke-house, and smoke well with hickory or other sweet wood. Then draw loose cotton bags over each joint, and tie round the string by which the meat hangs. Do this before the flies come in the spring, and you may let it hang as long as you like, and it will be good—at least, mine is so. For many years our house has not been without a supply of this most excellent kind of meat, which is a much more healthy food than the eternal round of fresh beef, &c.

But to return to my subject. On the 20th of January, 1846, I killed 5 hogs, about a year and a half old, and one about half that age, of the Berkshire and China breed, fattened upon corn fed in the ear, the quantity not counted, as it was too cheap to regard that.

The following table will show the weight of each hog, and the weight of each piece of meat cut for bacon.

| Hogs. | Hams. | Shoulders. | Sides. | Heads. |
|---|---|---|---|---|
| 312 lbs. | 30 lbs. | 32 lbs. | 44 lbs. | 23 lbs. |
| | 30 .. | 30 .. | 38 .. | |
| 308 .. | 29 .. | 34 .. | 40 .. | 21 .. |
| | 30 .. | 35 .. | 38 .. | |
| 295 .. | 30 .. | 35 .. | 37 .. | 19 .. |
| | 32 .. | 35 .. | 34 .. | |
| 289 .. | 29 .. | 29 .. | 34 .. | 21 .. |
| | 27 .. | 30 .. | 38 .. | |
| 259 .. | 27 .. | 23 .. | 26 .. | 21 .. |
| | 27 .. | 24 .. | 26 .. | |
| 181 .. | 20 .. | 19 .. | 19 .. | |
| | 20 .. | 22 .. | 19 .. | 12 .. |
| 1644 | 331 | 348 | 393 | 117 |

*Scraps, &c.*—21 lbs. of feet; 213 lbs. of sausage meat, and ribs and back bones and trimmings off; 150 lbs. of leaf lard and fat trimmings; 71 lbs. loss in cutting, and difference in weighing; 331 lbs. weight of 12 hams; 348 ditto 12 shoulders; 393 ditto 12 sides; and 117 do. 6 heads:—1644 lbs.

This pork when killed was worth 3 cts. a pound—I will say it would only shrink the 44 odd pounds in taking to market, at which it would amount to $48. The lard tried out 129 lbs., a most beautiful article, the scraps not being much squeezed, as that would rob the good wife's soap tub.

On the 28th of April, the bacon being well smoked and dried, was ready to bag up. I weighed it, and found that the 12 hams weighed 304 lbs. (loss 27); 12 shoulders, 331 lbs. (loss 17); 12 sides, 259 lbs. (loss 34); I am inclined to think that an error of 10 lbs. was made in the weight of the shoulders, as I have heretofore found the per centage of loss about the same on these as on the hams. I will therefore throw off ten pounds on these, and we have 1,113 lbs. of bacon and lard in good weight and order, for market, which at 6¼ cts. a pound, which is a fair average price, will come to $69.56. The heads and sausage meat are worth one cent a pound, $3.30; 24 feet, 14 cts., will make an even sum of $73; from which take the $48 price of hogs before cutting, and it leaves a very pretty little sum to pay for a dollar's worth of salt and saltpetre, and the little trouble of handling. But it must be small-boned *fat* hogs, as these were, to do it. In this case I could sell the bacon and lard at 4½ cts., and be well paid for trouble and cost of making bacon, because the heads, &c., are worth much more than I stated them at in any family.

The principal object in this statement is to inform those who have had less experience in this matter than I have, whether it is most advantageous to sell their hogs fresh, or cut and salt; and for that purpose I have endeavored to be accurate. Each person in his own place will judge of his own market and relative prices, and if his hogs are not so good as mine, make greater allowance for loss and offal.

Will some one who keeps a pork barrel, make a similar statement, and publish for the benefit of your readers? Solon Robinson.

*Lake C. H. (now called Crown Point),*
*Ind., May* 15, 1846.

## HOW TO DESTROY THE CANADA THISTLE.

I AM an old man, and not much in the habit of using my pen, as you will easily guess—having in my younger days been more remarkable for plowing a straight furrow than writing straight lines; but you seem to be very good-natured, and I hope will let me " tell my experience," as they call it, about weeds on farms; which I shall try to do as briefly as possible, trusting that others may be the better for it.

In the July No. of your paper, a " Canadian Naturalist" complains with much justice, of the carelessness of farmers in suffering perennial-rooted weeds to take possession of the soil, to the injury of the crops; and says, if farmers would be unanimous in their efforts to exterminate them, even the Canada thistle might be conquered. It *is* a vile weed, which has had as many names as a pickpocket (if he is a patriot, he will thank me for reminding him that it is not a native of this continent); and he does not wish to get rid of the unwelcome intruder more earnestly than his brother farmers on this side of the St. Lawrence. But though they appear to be indifferent, on one point they are unanimous, and that is, in lamenting most feelingly that individual care is of no use, and that all should go to work together.

Now I say, *let every man weed on his own side of the fence*, if he can do no more, and I prophesy that in a short time *weeds* will be as sure a mark of bad farming as a broken gate, or a dead horse hauled out on the common, and left unburied, to taint the pure breath of heaven for miles around, wasting ammonia enough to fertilize a forty-acre field.

When I took my present farm it was the worst in a circuit of ten miles, making my house the centre point; and now I believe it is in a condition to bear a comparison with some of the best farms in the United States—for instance, that of George Schaeff, Esq., in Whitemarsh, about fourteen miles from Philadelphia, which is much less known than it should be. There are no weeds in *my* fence corners, unless you can so call a fine large wild clematis vine, which I left to ornament an old tree, with its clusters of snowy blossoms, where the cows love to stand in its shade on a hot day—or an elder bush or two, just enough to give the old women elder flowers for medicinal purposes; or, perhaps, here and there, a cluster of purple asters and golden rod, so disposed as to show that they *are* left on purpose—but no wild carrot (*Daucus carota*), no Ben Salem (*Chrysanthemum leucanthemum*), or rausted weed.

Now the whole secret of this beautifying process is this; I weed on my neighbor's side of the fence, as well as on my own; not a weed is suffered to so raise its head in peace—for the proverb is true, as most proverbs are, which says, " One year's seeding makes seven years' weeding." I have a good chisel firmly set in the end of a strong cane, which I always carry when I go out with my men; and I generally come home pretty well tired with the labor of cutting off *close to the ground*, every large-rooted weed I find in my walk. One day when I had been out longer than usual, and had kept breakfast waiting, my granddaughter was very curious to know what I had been doing on neighbor Jackson's hill, a stony field, that was hardly worth cultivating. I told her I had been weeding on my neighbor's side of the fence—that Jackson was sick, and I had found the blue thistle (*Echinum vulgare*) was beginning to spread about here.

A friend of mine, in a Yankee settlement, not far from the New York line, conquered the Canada thistle in pretty much the same way, when nearly twenty years ago it was first noticed there. He first proposed to have a bee (*a*), and exterminate the intruder at once, but it did not take with his neighbors, who thought it would be time enough when the weeds came up upon *their* ground; so he, with two other gentlemen, made it *their* business, in their leisure hours, and when they walked out, to cut off all the flowering stems, when they could not take time to destroy the roots; and besides conquering the thistles, they gained a victory over their stupid neighbors, who now acknowledge that they have been benefited by his having taken the thing in time, for they find that wherever neglected, the weeds will spread; and each one encourages his neighbor to weed on both sides of the fence. AN OLD PENNSYLVANIAN FARMER.

*July 7th*, 1846.

(*a*) Lest any one should suppose a bee means nothing more than the industrious little insect of the name, and as it is a somewhat local term, among my Down-east brethren, I will explain—but it shall be at a more convenient season.

## IMPORTED DURHAM CATTLE.

HILPA, the first cow of the two which I wrote you some time ago Mr. Bates was to send me, reached here this morning. She came in the packet-ship New York, Capt. Cropper, which arrived in your city a day or two ago; and I hope you had an opportunity of seeing her there, (*a*) as she is, I think, a fine animal, and not inferior to any Mr. Bates has sent me. She has a superior brisket, and remarkable width across the loins. Her handling is very good. The Bates cross in her is plainly discernible. She stands right on the ground—not too high, nor too low. I hope you have seen her; and if so, you are much more capable of forming an opinion of her than I am. Mr. Catlin, who shipped her from New York up the river, informs me that Capt. Cropper speaks highly of her milking qualities, both as to quantity and quality.

This cow, Hilpa, was stinted to Mr. Harvey's celebrated prize bull Walton, on the 28th of May, two or three days before she was shipped, by direction of Mr. Bates. You know Walton is a descendant of Mr. Bates's herd. The other cow, Cecilia, Mr. Bates purposed to have stinted to his second Duke of Oxford, before she is sent out. I have, however, written to him to put her to his fourth Duke of Northumberland, which bull he informs me he retains at home for his own herd, while the other Duchess bulls are all let out for the season. I herewith enclose you a copy of the pedigree of the two cows, signed by Mr. Bates, which I wish you would do me the favor of publishing in the Agriculturist, with his signature at the bottom, and also the remarks he makes in relation to the prize calf of Hilpa, calved in 1844—which certificate is in his own hand-writing, and is signed with his own name. GEORGE VAIL.

*Troy, July* 15, 1846.

Pedigrees of two cows bought of Messrs. Bell, Kirkleavington, near Yarm, Yorkshire, England, by George Vail, Esq., Troy, United States of America.

Mr. Thos. Bell's cow Hilpa, roan color; calved May 23d, 1840. Got by Cleaveland Lad (3407), dam (Hawk-eye), by Red Rose bull (2493); grand dam (Hart), by Rex (1375); great grand dam, bred by Mr. Richardson, of Hart, Durham County, who had the breed above thirty years, and were all roan colors, and good milkers.

Mr. Robert Bell, Junr., cow Cecilia. Red and white color; calved October 6th, 1841. Got by 3d Duke of Northumberland (3647), dam by Short-Tail (2621); grand dam (Chapman), by Skipton Bridge (5208), and from a tribe of cows, all good milkers, and long in possession of the breeder thereof. I can certify that the above are correct pedigrees, *the Messrs. Bell having had their stock from me.*

The son of Hilpa, named General Sale, by Duke of Northumberland (1940), when a calf in 1844, obtained the highest premium given by the Yorkshire County Agricultural Society, at their Show, held at Richmond; and also the same autumn obtained the highest premium at the Durham County Ag. Society Show, held at Stockton; and the following day also obtained the highest premium given by the Cleaveland Ag. Society. I certify to the correctness of the above facts.

Signed, THOMAS BATES.

*Kirkleavington, March 16th,* 1846.

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(*a*) We noticed this superb cow, on page 261 of our last number; but the owner's name, and some other particulars, were, in our absence from town, unfortunately left out in making up the form. We need only say, that Hilpa is all, and more than her owner represents, he having been quite diffident in his description above, in giving all her good points. It is gratifying to add, that Mr. Vail has been eminently successful as a breeder, and is annually making considerable sales of stock. We presume that several of his animals will appear at the forthcoming Show of the State Ag. Society, on the 15th, 16th, and 17th of this month, at Auburn.

## PRIVATE AGRICULTURAL SCHOOLS.

I CANNOT at all agree with your "Reviewer," as to the practicability and future prospects of Agricultural schools, in private hands. At a single dash of the pen, he seals their fate so positively, as seems to indicate a desire on his part, to prevent any further development of that patriotism he so highly commends.

We have a class of people in this country, who seem to be always looking to government for the supply of every want of a general character, that is, in which any considerable portion of the community are interested. Sound views on this subject would lead us to see, that the true aim and end of government is to accomplish *only* such things for the governed, as cannot be reached by individual action. Whenever a state dips into matters beyond its proper sphere, and takes in hand banking, colleges, internal improvements, and the like, there will always gather around a horde of office-seekers and political speculators—to the detriment and mismanagement of the whole affair. Where salaries and appointments are, there will these characters insinuate themselves, in spite of all the guards and checks that can be thrown up to prevent it. The less officers, money, and machinery, there are used in the administration of a government, the better. Every consignment of the objects mentioned above, to the state, violates this plain political maxim, and should therefore be discouraged by all good citizens.

Probably, more than three-fourths of all seminaries of learning in the world, have been sustained by individuals, in a private associated capacity. This being the fact, in regard to legal, medical, and theological science, why may we not infer that it is just as feasible in regard to agricultural knowledge? If the State can justly be called upon to take the latter in hand, why may not mechanics also claim their "State Institution?"

In the very nature of things, we might reasonably expect that private enterprises would be the more likely to succeed. Acting from motives of devotion and attachment to the spread of knowledge, or with a view to pecuniary profit; in either case, they have every inducement to adopt the best modes of conducting an institution, in order to secure their end. Give us teachers and managers whose "hearts are in the matter," rather than any salaried governmental professor.

The advancement of human knowledge, and especially agricultural knowledge, is an object well worthy the best efforts of any man. But those who look to the State to do this for them, will often be most sadly disappointed in their wishes for the "diffusion of knowledge among men," as the late Mr. Smithson styles it, in his most unadvised bequest of half a million to our government. Who does not believe, that if the matter had been left in the hands of private trustees, the fund would long ago have been applied to its proper object, and hundreds already been benefited by it, and fitted to be useful to their country, and the world? How would the donor decide this question, could he rise from his resting-place, and see the manner in which his trust has been neglected, not to say abused; for I verily believe, a large majority of our public men would be glad to have this business off their hands, not knowing exactly what to do with it, and feeling they have a service laid upon them, not belonging to their stations.

The other branches of human learning being already comparatively well provided for in this country, it certainly is desirable that this fund should be devoted to the spread of agricultural knowledge, and we are not without hopes that this direction may finally be given it. Let us have no "national school." Let our only experiment—West Point—settle this question. But let us have an annual appropriation for the collecting of materials, and sending forth substantial public documents, containing real information to the agricultural community, in regard to their business. Witness the regular, systematic manner, in which the British Legislature so zealously collect information in regard to the various useful arts of life. Let us follow their example. The periodicals of our day are fast creating a taste for this kind of reading; and we hope the day is not far distant when such documents will be read with attention and profit.

"But especially let us encourage agricultural schools in private hands; for, in the language of Judge Buel, our country needs them." And we have the fullest assurance of their final success. I had noted down some further remarks in regard to this subject, after reading the observations of "Reviewer" upon which we started, but for the present forbear. A. R. D.

*Hackett's Town, N. J., July 10th*, 1846.

## HORTICULTURAL NOTES.

*Isabella Grapes.*—My gardener had permission to prune one of my vines in his own way. It had been spur-pruned in February, one eye left at each joint, and the laterals broken off in June. Early in July he shortened the bearing branches two eyes beyond the last bunch of fruit. The grapes advanced rapidly in their growth, and for two or three weeks were the best looking in the garden. They then became stationary, and those treated in another manner became much larger, and of a healthier aspect. It would seem, therefore, that stopping, at any rate short stopping, is not the best mode of treating this vine.

A friend of mine has a most magnificent young Isabella vine in the city, which he has not pruned at all, since he shortened it in early spring. My own vines have been treated as follows:—Winter-pruning on the spur system (too much bearing wood left, I suspect), one eye only left to each joint, the laterals carefully and repeatedly broken off, and (against my wishes) some shortening during the summer, and only one bunch left on a branch. The comparative result is this. My friend has most fruit; mine is the handsomest and most perfect.

One of my neighbors pruned some old vines last year, very severely cutting off large masses of old wood. This year he has left the vines entirely untouched; the yield is very large, and a great deal of the fruit is good—much of it inferior. A single vine, from which he removed the laterals at one joint from their origin, has turned out the best.

My conclusion is this—the Isabella requires severe winter pruning, if the spur system is adopted, but one eye should be left.

*Manures.*—I gave two of my vines a rich top-dressing of half-rotted stable manure, late in June. About one-third of the fruit became mildewed, and the whole of it was otherwise inferior to the rest of the crop. My friend manures freely, with the same manure, in the autumn—his fruit is not mildewed. Too rich stable manure is not the only cause of mildew in the grape. I see it where there is a want of free circulation of air.

*Insects.*—I met with the brownish-yellow beetle, one inch long, in the leaves, on which it appears to feed; but their depredations have not been extensive enough to do harm. The rose-bug consumed the leaves two years since, leaving only the net-work of vessels remaining. I have not seen them since. The turtle-bug is beginning to show itself, but they do more harm to the squashes than to the grapes. I find under the grape leaves a small white fly, and a general appearance like down, which, when looked at with a glass, is seen to be animated. The foliage becomes rusty, and the fruit of course is more or less injured. Will some of your correspondents make known a remedy? Would stripping off the old bark, and washing with soap suds in the spring, destroy them?

At the extremity of the branches of the vines, myriads of small black ants are often seen. I am always reminded of old Hays and his *posse* of police officers, when I see these sentries. Are they after other insects? If so, what insects, and what harm will they do? I have seen also a small black fly, and another insect, resembling a flea, but am not aware that they have done any injury. More on this subject hereafter.

An Amateur Gardener.

## REPLY TO REVIEW OF MARCH NO.

Your June No. came by an accidental opportunity to-day, from the office, and I set myself at once to answer Reviewer. The information he desires I will cheerfully give, to the extent of my abilities.

The people of the North are greatly mistaken if they think the soil of Mississippi to be inexhaustible. A portion of it is as rich as the lands on the banks of the Nile; and a portion as poor as the poorest lands in New Jersey, where the black-jack runners kill themselves searching for food for the tree. Our soils vary exceedingly, no country more so; the lands lying on the Mississippi are a rich alluvial, with a heavy vegetable mould on the surface, and containing much siliceous matter, but in very minute particles; the subsoil is clay, and a very rich earth, having much the characteristics of loam and also of marl. I speak more especially of Warren County, directly west of me, the county seat of which is Vicksburgh. Vegetables will grow most luxuriantly in it, and it is an excellent top-dressing to land; it possesses the peculiarities of apparently getting neither wet nor dry—it is very valuable. Farther back, lands are not so rich, when level, are generally good, say as far as 25 to 40 miles on a line; some level lands are now poor in the woods, cold, whitish clay; some hilly lands are the richest. To know the country it must be seen. My pen, though "free," lacks a head to guide it, to give a faithful description. Much of our lands, if fresh and under good cultivation, will produce say 30 bushels of corn; but if plowed, as is very usual, two or three inches deep, the sun causing rapid decomposition and rapid evaporation, with real rains, not showers, they soon deteriorate. I can show a plantation, now worn out, that produced 15 years ago 8 bales of cotton per hand, under a thriftless course of culture. When I say that "the subsoil possesses all the requisites of a good soil," having stated previously that the soil was worn out—I meant that the salts existed in sufficient quantity to form a good soil, by proper attention. And this attention should be deep and fine tilth, a bountiful supply of vegetable matter, and protection from the sun.

As to returning to the earth more than we take away, I will tell you what can be done. The last week in May peas can be sown between rows of corn, these will cover the land entirely before the 15th of September. The first frost will kill the vines. In September or October sow down rye or Egyptian oats; these will feed stock during winter, will protect land from rain measurably, and from washing, and can be turned under in February or March. Here are two crops; but if desired to turn under at different times, do so in fall, sow grain, and then turn under the grain. If desirable to turn under again another crop, sow oats in February and March; turn these under about June, when heading out, and plant for corn. Here are three crops turned under. But it is better to sow peas in March, say about the 15th; these will cover the ground in May, plow in, and sow again, and I believe a third crop can be plowed in time enough for grain. Last year, and the two preceding years, I plowed in as much rye as my plows could turn under, in March, having had the pea-vine on it in the previous summer. I think that good lands can be kept good; and I believe I have land now with the twentieth crop on it, that will yield more corn or cotton than it did in 1830, or about that time, comparing with the best crops of the period. To prove it, my crop in my orchard, cut, gave me last crop, on one part, over 1,600 lbs of seed cotton; on another part, about 50 bushels of corn. In 1833–'4, my cotton was 900 lbs. per acre. I remember that year, by my first experiment with Gulf seed; the past year I tried a similar one on the same land. And it is this that led me to remark on the negligent cultivation of my brother "planters." We are "planters" here, not because we are all *large* "planters," nor that "a farmer" is a disreputable name, but that we confine ourselves to one crop.

To tell you what sort of planters we are, would require time; but we are a very clever set of fellows, and you Northerners may thank your stars that we are not more attentive to our own interests; if we loved money more, you would see less of it; we make a great deal of money, and spend it in all sorts of "Yankee notions," and sometimes spend it before we make it—but this is personal—excuse me. You may ridicule, but, sir, as sure as you live, we can turn under a coat of cow-peas every year, fully equal in value to your best clover leys, and as it is killed by early frost, of course we can sow grain and plow that in, for March or April planting.

The "cow-pea"—we generally call all this family cow-peas—differs in every particular from the garden pea, which we country people call "the English pea"—they differ in shape, color, and size. The black crowder is about as large as the marrowfat. The grey crowder nearly as large. These are rounder than the real cow-pea, which is nearly as large, but more kidney-shaped, and of a russet color. Then comes the red ripper, smaller, and not quite so long, but still kidney-shaped; then the stock or tory pea, lady pea, calavanse, &c., the latter of greyish color, and about the size of a duck shot, a very delicate table pea, and to my notion is just ahead of any of your foreign English peas. The vine will grow, I verily believe, 20 to 100 feet, in a season, if we take the branches, and add to the main vine. The stem is frequently as large as a town lady's *little finger*—I have seen them, but never dared touch. It rises from 3 to 6 inches, and branches off, and continues to branch, until the close of the season. I have seen, on good land, where 8 to 12 quarts had been sown to an acre, the peas so rank that a horse as stout and fleet even as Boston, could not make his four miles through them, in a day.

"What, good for?" "haulm." You say too much. How know you that they have a haulm? But, never mind, I care not to ferret you out. "What good for?" Like the negro's rabbit, "good for ebery ting." The vine, if pulled or cut before frost, and cured, will feed horses, cattle, and sheep. The pea, if gathered and kept from spoiling, will feed man and beast, will fatten superior to corn.

We sow the pea, or drop it, either at second working of the corn, if in hills, or when we plow to lay by, which is generally done when corn is *in bunch*—that is, when the tassel is in a bunch of leaves at the top, but has not quite appeared—that is what we call "in bunch." The vine is cut or pulled as late as we can, to avoid frost. We seldom gather peas but for seed, and then when most are ripe, about frost or a little after, we feed the residue on the land to hogs, or by giving them the run of the field. Coke has to gather peas, for want of corn.

Feeding hogs on cotton seed and peas, ground! From February to August we have as much as we can all do to kill grass, then pull fodder, and then enough to gather our crop, that feeds and clothes one-half of you all, until February. We can make cotton at 4 cents per lb., and buy meat at 4 cents, better than go to all that sort of work. But no need for it. I can show you clover two feet high; I can show you feed for hogs without fences.

"This may be plain English in your latitude." Why, sir, suppose my friend S. were to send me his boy, to live with me, and I was to direct him thus:—S. Jr., I wish you would not spend more time from the cotton field than would suffice to gather rye, oats, and peas, for seed, to plant our next crop. Would it not mean that we reaped and gathered for seeding alone, not for selling or for feeding? Why, sir, at this very time, I have some 10 acres, more or less, of rye, that will not be cradled, because I have cut enough for seeding all the land I desire to seed. The seed is the crop; the balance of the rye and peas is left on the ground for hogs or cattle. Is there anything mysterious in this, only that we have no need to gather anything? Have you never heard of the West feeding large fields of corn to stock, not gathering the crop?

The grass that follows oats and rye, is crab grass, and equal in nutritive qualities to any grass in the Empire State, or among the prairies, near the "North Pole." We cut our grain from the 5th to the 15th of June, crab grass then springs up on good land, and will cover the earth before frost, so as to give nearly two tons of cured hay.

I have no "poor starved niggers." So far from it, I guess they dine on as nice bacon, cabbage heads, beans, and Irish potatoes, these days, as any other man—white or black. Of course they cannot starve even if they get no other meal, as I can prove by one white man, who is content with one good meal a day.

About fencing—why should I quarrel about this matter, although the editor of the Agriculturist has something on this subject? We cannot teach "Wahoo Indians" that we can do without fences.

"Write again, Doctor." Thank you, friend Reviewer; but this liberty is already secured to me by our A. B. A. But if he would not admit my articles, I would write for somebody else, or burst. The steam gathers so fast, that I must let off occasionally. But, friend Reviewer, be ye careful, you may drive some valuable pens off; many are wary, they can't bear to be ridiculed. M. W. Philips.

*Edward's Depôt, Miss., June* 14, 1846.

## GARDENING.—No. 7.

The next step in the study of the science of gardening, is to consider the natural agents of vegetable culture.

The earthy matters which compose the surface of the earth, the air and light of the atmosphere, the water precipitated from it, the heat and cold produced by the alternation of day and night, and by chemical composition and resolution, include all the elements concerned in vegetation.

Earths are the productions of the rocks which are exposed on the surface of the globe, and soils are earths mixed with more or less of the decomposed organized matter afforded by dead plants and animals. Earths are, therefore, variously composed, according to the rocks or strata which have supplied their particles. Sometimes they are chiefly formed from slate rocks, as in blue clays; at other times from sand stone, as in siliceous soils; and mostly of a mixture of clayey, slaty, and limestone rocks, blended in proportions as various as their situations. Such we may suppose to have been the state of the surface of the dry part of the globe, immediately after the last disruption of the crust; but in process of time the decay of vegetables and animals forms additions to the outer surface of the globe, and constitutes what are called soils; the difference between which and earths is, that the former always contains a portion of vegetable or animal matter.

The manner in which rocks are converted into soils, Sir H. Davy observes, may be easily conceived by referring to the instance of soft granite. This substance consists of three ingredients, quartz, feldspar, and mica. The quartz is almost pure siliceous earth in a crystalline form. The feldspar and mica are very compounded substances; both contain silica, alumina, and oxide of iron; in the feldspar there is usually lime and potassa, and in the mica, lime and magnesia. When a granite rock of this kind has been long exposed to the influence of the air and water, the lime and potassa contained in its constituent parts are acted upon by water or carbonic acid; and the oxide of iron, which is almost always in its least oxidized state, tends to combine with more oxygen; the consequence is, that the feldspar decomposes, and likewise the mica; but the first the most rapidly. The feldspar, which is, as it were, the cement of the stone, forms a fine clay; the mica partially decomposed mixed with it as sand; and the undecomposed quartz appears as gravel of different degrees of fineness. As soon as the smallest layer of earth is formed on the surface of the rock, the seeds of lichens, mosses, and other vegetables of the kind, which are constantly floating in the atmosphere, and which have made it their resting place, begin to vegetate; their death, decomposition, and decay, afford a certain quantity of organizable matter, which mixes with the earthy materials of the rock; in this improved soil more perfect plants are capable of subsisting; these in their turn absorb nourishment by the agency of water and the atmosphere; and, after perishing, afford new materials to those already provided; the decomposition of the rock still continues; and at length, by such slow and gradual processes, a soil is formed, in which even forest trees can fix their roots, and which is fitted to reward the labors of the cultivator.

The formation of peaty soil is produced from very opposite causes, and it is interesting to contemplate how the same effect may be produced by different causes, and the earth which supplied almost all our wants, may become barren alike from the excessive application of art, or the utter neglect of it. Continual pulverization and cropping, without manuring, will certainly produce a hungry, barren soil; and the total neglect of fertile tracts will, from their accumulated vegetable products, produce peaty soils and bogs. Where successive generations of vegetables have grown upon a soil, unless part of their produce has been carried off by man, or consumed by animals, the vegetable matter increases in such proportion, that the soil approaches to a peat in its nature, and if in a situation where it can receive water from a higher district, it becomes spongy, and permeated with that fluid, and is gradually rendered incapable of supporting the nobler classes of vegetables. Lakes and pools of water are sometimes filled up by the accumulation of the remains of aquatic plants; and in this case a spurious peat is formed. The fermentation in these cases, however, seems to be of a different kind. Much more gaseous matter is evolved; and the neighborhood of morasses, in which aquatic vegetables decompose, is generally aguish and unhealthy; while that of the true peat, or peat formed on soils originally dry, is always salubrious.

Soils may generally be distinguished from mere masses of earth, by their friable texture, dark color, and by the presence of some vegetable fibre or carbonaceous matter. In uncultivated grounds, soils occupy only a few inches in depth on the surface, unless in crevices, where they have been washed in by rains; and in cultivated soils their depth is generally the same as that to which the implements used in cultivation have penetrated.

Systematic order and an agreed nomenclature are as necessary in the study of soils, as of plants and animals. The number of provincial terms for soils which have found their way into books on cultivation, is one reason why so little use can be made of their directions. A correct classification of soils may be founded on the presence or absence of organic or inorganic matter in their bases. This will form two grand classes: viz., primitive and secondary. These classes may be subdividedinto orders, founded on the presence or absence of saline, metallic, and carbonic matter. These orders may be subdivided into genera, founded on the prevailing earths, salts, metals, or carbon; the genera into species founded on their different mixtures; the species into varieties founded on color, texture, &c.; and sub-varieties founded on moisture, dryness, richness, lightness, &c.

Plants are the most certain indicators of the nature of a soil; for while no practical cultivator would engage with land of which he knew only the results of a chemical analysis, or examined by the sight and touch a few bushels which were brought to him, yet every gardener or farmer, who knew the sorts of plants it produced naturally, would be at once able to decide as to its value for cultivation. For example, the garget and striped maple are generally found on a warm, loamy soil; the rush on a clayey soil; the mullein and sorrel on a dry, sandy soil; and the cranberry on a peaty soil. But these plants, however, are not to be absolutely depended upon, as they are sometimes found in soils directly opposite; as climate and natural irrigation have much more influence on these plants than mere soils.

The remaining natural agents of vegetable culture, I shall treat of in another number; and shall here close the subject of earths and soils by stating that, according to the chemical analysis of Bergman, the soil best suited for the culture of most vegetables, contains four parts of clay, three of sand, two of calcareous earth, and one of magnesia.

L. T. Talbot.

## WOOL-GROWING IN WESTERN NEW YORK LANDS.

I am glad to see so much interest manifested in our Western New York lands. They are not properly appreciated. There is no better grazing land in any state, or situations more healthful or pleasant. All that "Western" says on the subject is true, as I know from my own experience. We have two small farms lying upon the high land, back of our main farm, and upon the Genesee slate, which underlies the most, indeed, nearly all of this section of the country. When it came into our possession, some twelve years ago, it had been worn out, as the owner supposed. We stocked down all that was under the plow, and have used it for a sheep-walk and meadow ever since. The land that with difficulty carried three sheep to the acre, will now carry six well, and serve better than it did three at first. There are thousands of acres which can be purchased at from $6 to $12 per acre —that 40 acres will carry 100 sheep well, both summer and winter, anu after a few years the same can be done on 30 acres. I can pick out a great many farms with good buildings, and the land very fairly fenced and cultivated, that it is safe to calculate 300 sheep to every 100 acres of cleared land, which can be bought for $10 and $12 per acre.

To make it profitable, no man should undertake without adequate capital. A man wants at least 1,000 acres, and the money to stock it, and enough to carry it on for a year, without looking to the avails of the farm. Thus situated, with a good flock of sheep, and a few breeding mares, he can be about as independent a farmer as need be. Indeed, none can be more so in any country.

To show what might be done, I have made a few figures, which I believe will be found to fall below rather than exceed the net profits to be derived by judicious management. In most instances the figures are from my own experience.

| | |
|---|---|
| 1,000 acres, say $10 per acre, | $10,000 |
| 2,000 sheep, $1 per head (high) | 2,000 |
| 10 breeding mares, $75, | 750 |
| Waggons, harnesses, tools, &c., | 300 |
| Capital invested, | $13,050 |
| Loose change, say, | 1,000 |
| Total capital, | $14,050 |
| *Expenses.* | |
| Interest on capital—say, | $1,000 |
| 2 hired men per year, and board, | 400 |
| Extra hired help in haying and harvest, | 200 |
| | $1,600 |
| *Receipts.* | |
| Wool of sheep, | $2,000 |
| Increase, | 700 |
| 10 colts, | 500 |
| | $3,200 |

It would thus appear that a man can realize at least 11 per cent. for his capital and time, with the utmost ease.

In making the estimate, I have allowed 300 acres for wood land and waste, about the usual quantity on that number of acres. This could be diminished by at least 100 acres, and adding at least $300 per annum more to the income. I divide the cleared land; 420 pasture, 210 meadow, and 70 grain. If the manure made by the sheep and horses is properly returned to the land, both the meadow and grain land may be decreased, or the flock increased. Twelve tons of hay for 100 sheep is an ample allowance for the winter. If fed on grain they will not eat so much. Ten tons of hay and 50 bushels of corn would winter a flock of 100 in the very best manner. I have allowed 20 acres of pasture, 10 of meadow, and 3 for grain, for every 100 sheep. Eight acres for meadow is sufficient, for there is little meadow land in that section that will not average at 1½ tons to the acre, and two acres of grain is all that need be given. I have not therefore overstocked the farm. An active enterprising man could realize as much from his capital here as in any other section of the Union.

I am really glad you are closing that sheep controversy. Like Mr. Bingham, I rejoice in all *real improvement* of sheep. But let the public have some other proof than the "*guessing*" of owners about heavy fleeces, and all that kind of "gammon." Mr. Bingham takes the true course, and I venture to say will have but few competitors.

*Darien, July* 4, 1846. T. C. Peters.

Feeding Large Dogs in Town.—I would advise horse's flesh, or bullock's liver, well boiled, to be given once a day, from 1 lb. to 1½lbs., according to the size of the animal. Potatoes, or odd pieces of bread, soaked in the liquor that the meat has been previously boiled in, may be given for breakfast. The dog must have a constant supply of good water; he ought not to be fed more than twice a day. Walthamstow.

# Ladies' Department.

## WHAT IS A PARAPETTICOAT?

We are astonished at the numerous inquiries that have reached us about this article. Its name reveals its nature. It is a hybrid between a parasol and a petticoat. This is not banter, but fact. And why should there not be such a thing? What is there *in rerum natura* to prevent an ingenious person from applying those two needful articles of shelter and dress to gardening purposes? They will fade, and wear thin, in the custody of the most economical gentlewoman, and to find a use for them afterwards is an adaptation of means to end which cannot be too highly commended.

Let us give a receipt for making a parapetticoat. First find a good-sized parasol, or small umbrella, covered with cotton, and not rubbed into holes. Then select a cast-off petticoat, not a crinoline, which Mrs. Malaprop calls a Kremlin, nor yet a flannel, but some other form of the vestment; it need not be very full; indeed, it will be the better for being scanty; sow up the opening, and it is ready for attachment to the parasol. For this purpose the latter instrument must be opened, and kept so; then the upper end of the petticoat is to be sowed to the edge of the parasol, and a staff six feet or more long is to be secured to its handle. Thus the parapetticoat is constructed.

But what a word! cries Sir Erasmus Verbal. What a barbarous compound of Greek and Saxon! The thing may be well enough, but its name is unendurable. Pray call it a parachiton, or a parachitonisk. We can have no objection to the change, if the world prefers it; and we agree with Sir Erasmus, that it will be as well to adopt it when parasol is called parahelion, and parapluie a paraombrion—but not till then.

And what is the parapetticoat *for?* For, Madam! for a most important purpose. It is an instrument of execution; it is the shirt of Nessus; it is the robe of Atropos. It is to enable the gardener to dispatch his mortal enemies. It is to relieve his rose bushes from that foe which he assails in vain with snuff, gas water, and smelling salts. It is to kill green flies.

The instrument is used thus. In the first place, the petticoat is drawn up till it rests upon the outside of the parasol. The staff of the latter is then introduced perpendicularly into the centre of a rose bush, and secured in its place by being pushed into the ground. The petticoat being then drawn down, the bush is completely covered in by the garment. The gardener then blows his tobacco smoke beneath it; in a few minutes the rose bush is enveloped in a cloud which has no outlet; the green-fly seeks in vain to escape from the fatal atmosphere which enters every fold and lurking-place; he clings in vain to his beloved rose-buds; his grasp relaxes; he falls; he dies, and with him

> Unnumber'd corses strew the fatal plain.

Five minutes suffice for the execution. The veil may then be raised; the instrument removed, and the operation repeated upon a new horde of delinquents.—*Gardener's Chronicle.*

# Boys' Department.

## A CHAPTER ON GRASSES.—No. 2.

The following definition of a *true grass* is copied from a lecture delivered before the class of the Chester County Cabinet of Natural Sciences, by Dr. Darlington, of West Chester, Pennsylvania, an excellent botanist and practical farmer; brief and simple as it is, it will be found to contain the most striking characteristics of the tribe:—"Whenever we meet with a plant having a cylindrical, jointed stem; with the joints solid, and the intervening portions hollow—or, in a few instances, filled with a pith-like substance—the leaves alternate, one originating at each joint, embracing the stem with its base, and forming a sheath, which is slit on one side, down to its origin—and the flowers protected by those peculiar envelopes known by the name of chaff, we may take it for granted we have before us a *genuine grass.*" To the same lecture I am indebted for many of the facts here stated, but as I quote from memory, I dare not make another answerable for my inadvertencies.

Botanists enumerate upwards of three hundred species of grasses indigenous to the United States—yet all the cultivated kinds, and their almost innumerable *varieties*, are believed to be introduced.

The uses of this interesting tribe are almost too well known and too various, to require enumeration—some few I will point out, and the boys may do the rest. Those considered of most value to the agriculturist in the Middle and Western States, as affording the best hay and pasture—though if I do not place them in their proper order of excellence, the same young observers must set me right—are, "*Meadow grass*" (Poa pratensis); "*blue grass*" (Poa compressa); "*Timothy*" (Phleum pratense); "*red top*" (Agrostis vulgaris); "*fescue grass*" (Festuca pratensis); "*orchard grass*" (Dactylis glomerata); "*ray grass*" (Lolium perenne); and "*sweet-scented vernal grass,*" (Anthoxanthum odoratum), which gives a delightful perfume to the hay. Some others are occasionally cultivated; but, I believe, not to any great extent or advantage.

The sugar-cane (*Saccharum officinarum*) is a *true grass*, which, in its structure and habit, bears a striking resemblance to Indian corn; but unlike it, the chief value consists in the rich juice with which the stems abound—and if any boy should be so ignorant as not to know that it furnishes sugar and molasses, he should be made to learn the lesson before he is again allowed anything better than *sour* apple pie, or *dry* bread for his luncheon.

A species of seed, which in Brazil forms impenetrable thickets, grows to the height of thirty or forty feet, with hollow stems six inches in diameter, which are filled with a cool, pure liquid, capable of quenching the most burning thirst. Of this the hunters are so well aware, that, when in need of refreshment, they, with their machitis, or large two-edged chopping knife, cut off the young shoots just below a joint, and drink the delicious beverage so bountifully supplied by nature.

A very coarse paper is manufactured in this country, from oat straw, which is found to resist the effects of damp better than other kinds of cheap paper. In the native country of the "*Bamboo,*" Bambusa arundinacea, the stately culms, or *stems*, furnish spars for sail boats, as well as stout walking-canes, much valued by pedestrians; and of some of its congeners are made the pretty "rattans" and "supple jacks—and fishing rods," such as good old Izaak Walton never dreamed of.

Excellent mattrasses are made from the soft inner husks of Indian corn, properly dried and hetchelled. Nothing affords a warmer thatch for outhouses than rye straw; and in Great Britain the cottages of the laboring classes are universally roofed with it; and what could our neat housewives do without the aid of the fine branching panicles of the *broom corn?* (Sorghum saccharatum.)

The creeping suckers and tangled roots of several species of otherwise useless grass, are extensively useful both in Europe and America, in fixing the shifting sands of large tracts of sea coast, and preventing the ravages of the winds and tides—for this purpose the Arundo arenaria and Cynodon dactylon are most valuable. But I should weary my young friends, as well as myself, were I to save them the pleasant labor of finding out all the ways in which grass contributes to our comfort and luxury—mats, bags, ropes, ladies' bonnets, boys' hats, and a hundred other useful and ornamental articles. Even the melancholy sounding whistle, which every schoolboy can make of a green rye straw—not knowing or dreaming perhaps, that he is doing what men did thousands of years ago,—when they first invented the musical instrument, since called "Pan's pipes," which after various modifications became the soul-entrancing flute!

I dare not mention among the *useful* productions the much abused whiskey distilled from rye, nor the rum and ratafia from the sugar-cane.

Straw, kept dry, appears almost incorruptible, which is owing to the abundance of silex which pervades the *cuticle* or skin, for they have no *bark*—that it is so filled can easily be proved by burning a straw upon a piece of glass, when the vegetable portion will be consumed, and the complete skeleton left in the silex.

It would be an agreeable and useful employment for the boys, to collect and preserve a specimen of each kind of *true grass*, and arrange them according to their natural affinities, in books made of straw paper, loosely stitched together. Each specimen should have a label of writing paper, with the scientific and common names, neatly written, the place and mode of growth, cultivated, naturalized or indigenous, time of flowering and of ripening the seeds, with the several uses it can be made to answer in rural economy, to man or to animals.

*Eutawah.* E. L.

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## BOYS, BE KIND TO DOMESTIC ANIMALS.

ONE of the patriots and heroes of the War of Independence, who died suddenly, some years ago, in his barn-yard, said, with his last breath, to his servant, near by, "Take care of these creatures." By the same kind direction we are bound to study the means of preserving the health and administering to the wants of domestic animals, by all those precepts in "Holy Writ," which recommend kindness to them, and protection from outrage and oppression. A portion of the humane spirit of those precepts has pervaded all countries, and descended in a particular manner to the nations of the East. One of the tales of a philosopher of India, elucidates this fact in a striking manner. A traveller who was permitted to visit the place of punishment of criminals, saw there every part of the body of a man of high rank in flames, except one of his feet. Upon asking the reason why that part of his body, alone, was exempt from the rage of the fire, he was told, that the only kind action that man had performed during his whole life, was to liberate a lamb which had been entangled, by one of its feet, by means of a brier, in crossing a field, and that, as a reward for that act, his foot was exempted from punishment.

We are also bound to study the diseases of domestic animals, and the remedies that are proper to cure them, by a principle of gratitude. They live only for our benefit. They require in exchange for their labor and all the other advantages we derive from them, nothing from us but food, shelter, and these often of the cheapest and coarsest kind, so that there is constantly due to them an immense balance of debt from us. This motive to take care of their health and lives will appear more striking when we consider the specific benefits we receive from each of them. The horse is not only an important appendage, but a necessary part of the cement of civilized society. He plows our fields, he draws home our harvests and fruits to our barns and cellars. He conveys them from distant parts of the country, oftentimes over rough and difficult roads, to our sea-ports and market towns. He receives, in exchange for them, the products of foreign climes, and transports them to the interior and remote parts of our country. He administers to our health and to our pleasures under the saddle, and in the harness. In short, he adds to the increase of our commerce, national wealth, and happiness. To the horned cattle and sheep, we are indebted for many of the blessings and comforts of life. The strength and patience of the ox in the plow and in the team, have added to the wealth of the farmer in every age and country. The cow has still greater demands upon our gratitude. Her milk, in its simple state, furnishes subsistence to a great part of mankind. Its products in cream, butter, and cheese, form the most agreeable parts of the aliment, and even the luxuries of our tables. Her flesh affords us food. Her skin protects our feet and legs from the inclemencies of the weather in the form of boots and shoes. The sheep affords us, by her wool, a great portion of our clothing during every year of our lives, and likewise furnishes us with a wholesome aliment in the form of mutton and lamb. The hog is said, like the miser, to do good only when he dies. But this is so far from being true, that he is dishonored by the comparison. He fattens upon the offals of our kitchens, and is also made to perform the office of scavenger in cleaning our streets. At his death he bequeaths us his flesh for food, his hair for brushes, and his fat for culinary purposes, and is useful in the arts. Other benefits are derived from the ass, the goat, the cat, the dog, and other animals. W.

## FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamer Caledonia, we are in receipt of our foreign journals up to August 4th.

MARKETS.—*Ashes*, a very limited inquiry. *Cotton* an active demand without any change of prices. Stock on hand in Liverpool on the 1st of August, 800,000 bales against 1,058,000 same period last year. *Flour* and *Meal* dull, but in consequence of the loss in the potato crop, it is thought the latter article will advance. *Beef* large sales. *Pork* dull. *Lard* improving. *Cheese* of a superior quality much asked for. *Naval Stores* in request. *Rice* a slight advance. *Tallow* improving. *Tobacco* steady. *Wool* firm with a fair demand. A small quantity had been received from Oregon. It was in fine order, and sold well. The stock on hand of all kinds is light.

*Money* quite easy at 3½ to 4 per cent.

*The Weather* had been somewhat unfavorable to the in-coming crops, and considerable injury had been experienced; not enough, however, to affect prices. The harvest in France has been injured about the same as in Great Britain.

*The Apple Crop* is greatly injured throughout Europe. This will make American apples in greater demand than ever.

*The Potato Disease* is ravaging Ireland again, and is more or less prevalent throughout Europe.

*Seed Wheat.*—Whatever difference of opinion may exist as regards the wisdom of the recent alterations in the laws respecting grain, there can be none as to the necessity of adapting ourselves to our present circumstances, and endeavoring to make the best of them. It is a known fact that in high latitudes the growth of plants is very rapid. The burst of spring, the splendor of summer, and the maturity and incipient decay of autumn follow each other with a swiftness scarcely credible. The grain sown to-day, is, in a very few weeks, ready for the sickle; and the higher the latitude where it can be made to grow, the shorter is the period it requires for its growth and ripening. Grain which has been grown in the extreme north, when used as seed in a southern country, gives its first produce more speedily, ripening in a much shorter time, although at a second sowing it loses this quality. The fact has been recognized, and is acted upon pretty extensively in this country, it being commonly recommended to obtain seed from colder situations than those in which it is intended to be sown. In Sweden, grain is annually brought for seed from Torneo (in the north of the gulf of Bothnia, and almost within the arctic circle), and sown in lands so much exposed that the sowing time is thrown so late that corn, excepting from seed thus obtained, has no time to ripen. Districts formerly on this account utterly barren, are thus rendered fruitful. Is it not then worthy of the consideration of some of our enterprising agriculturists, especially of those who occupy high cold districts, whether they might not profitably import their seed corn from the northern European nations, and thus, perhaps, obtain a harvest in September, where now it is commonly thrown into October or November? With this resource it might be found that wheat could be grown more extensively and more profitably than it is to the west of Sir Robert Peel's line drawn from Southampton to Inverness.—*Gard. Chron.*

*To Pull Flax.*—The time when flax should be pulled is a point of much nicety to determine. The fibre is in the best state, before the seed is quite ripe. If pulled too soon, although the fibre is fine, the great waste in scutching and hackling renders it unprofitable; and, if pulled too late, the additional yield does not compensate for the coarseness of the fibre. It may be stated that the best time for pulling is, when the seeds are begining to change from a green to a pale brown color, and the stock to become yellow, for about two-thirds of its height from the ground. When any of the crop is lying, and suffering from wet, it should be pulled as soon as possible, and kept by itself. So long as the ground is undrained, and imperfectly levelled before sowing, the flax will be found of different lengths. In such case, pull each length separately, and steep in separate pools or keep it separate in the same pool. If the ground has been thorough-drained, and laid out evenly, the flax will be all of the same length. It is most essential to take time and care to keep the flax even, like a brush, at the root ends. This increases the value to the spinner, and of course to the grower, who will be amply repaid, by an additional price for his extra trouble. Let the handfuls of pulled flax be laid across each other diagonally, to be ready for the rippling.—*Ibid.*

*To make Rhubarb Wine.*—To every pound of green rhubarb stalks, when bruised, put a quart of cold spring water; let it stand three days, stirring it twice in a day, then press, and strain it through a sieve, and to every gallon of the liquor, put 2½ or 3 lbs. of good loaf sugar; barrel it, and to every 5 gallons add a bottle of white brandy; hang a piece of isinglass in the vessel, suspended by a string, and stop it up close; in six months if the sweetness be sufficiently off, bottle it for use, otherwise let it stand in the cask a longer time.—*Ib.*

*Preserving Rhubarb.*—In addition to "preserving it with sugar like raspberries," rhubarb can be very successfully and agreeably preserved—in bottles as green gooseberries are—peel the stalks and cut them into pieces as for a tart, and then treat them as if they were gooseberries. Rhubarb bottled thus gives us excellent tarts and pies at Christmas. It can also be dried as angelica, and makes a very agreeable dried preserve. Have any of your correspondents ever tried dried strawberries? They are very good, and the abundant crop of this year will give material to experiment on.—*Ib.*

*Bones dissolved in Caustic Ley.*—I have seen much in your paper of bones being dissolved in sulphuric acid as a manure. Are you aware that bones may be dissolved in the alkaline ley of the soap-boiler, and will form a paste of the consistence of butter, which may be reduced to any thinness of fluid required for application as a liquid manure? Am I wrong in believing that, as the solvent power consists solely of soda-ash and lime, it would be a more powerful manure than the bones with acid? There was a patent some years ago for making soap in this manner; whether the patent is in force now I do not know, but that can easily be discovered if thought worthwhile.—*Ibid.*

*Singular Fact in the Potato.*—We learn that here and there the new potatoes have been found, when dug up, to be sprouting from every eye. We have seen nothing of the sort ourselves; and we venture to ask our correspondents if they have remarked the circumstance. It will be a new phase in the potato constitution should this habit prove to be general. The expression of our informant is, "the potatoes before they are half grown are all growing again, throwing out roots and fibres from the eyes, and forming small tubers; a second generation in the year."

We would also make another inquiry. *The only universal fact*, relating to the potato disease of last year, was, that it did not appear at all, or in a very inconsiderable degree, in genuine peat or "moss" land, which appeared to have some power of keeping off the decay. What we now are desirous of knowing is, Whether the experience of our readers tells them, that the same rule holds good this year? We should be greatly obliged by information on this point.—*Ibid.*

# Editor's Table.

SALE OF DURHAM CATTLE.—We desire to call the attention of our readers to the advertisement of Mr. Paoli Lathrop, offering his herd of Durham Cattle for sale. We have often inspected it, and can therefore say from our own observation that it is a very superior herd. Several of the cows are great milkers and butter makers, and we believe all are of prime quality.

A HISTORY OF LONG ISLAND, from its first settlement by Europeans, to the year 1845, with special reference to its Ecclesiastical concerns. By Nathaniel S. Prime. Pp. 420, with a map. Published by Robert Carter, 58 Canal St., N. Y. Price $1.00. Physically and historically, Long Island is one of the most interesting sections of the United States. In the above history, Doct. Prime has given a clear, and sufficiently minute account of its aspect and resources, and the events of most importance since its first settlement. To gather the materials for this has required much laborious research and personal observation. The ecclesiastical part of this work is particularly valuable, and can be found in no other history of the Island.

SACRED PHILOSOPHY OF THE SEASONS; illustrating the Perfections of God, in the Phenomena of the year. By Rev. Henry Duncan. New York: Robert Carter, 58 Canal St. This excellent work, like the "Bridgewater Treatises," is intended to demonstrate the existence and the attributes of God, in the various phenomena of nature in the revolving year. The first three volumes treat respectively on Winter, Spring, and Summer, and are replete with useful and instructive matter which cannot fail to be interesting to teachers of schools, academies, and families. Price $1.25 per volume.

EXPEDITION TO BORNEO of H. M. S. Dido for the Suppression of Piracy; with extracts from the Journal of James Brooke, Esq. By Captain the Hon. Henry Keppel, R. N. Pp. 413, with a Map. Price 50 cents. Harper & Brothers. The magnificent island of Borneo, and the adjacent archipelago are almost unknown regions in this country; it is with peculiar satisfaction, therefore, that we are favored with a copy of the narration of this Expedition. It contains the latest and most accurate geographical, historical, and political information to be found of Borneo; and aside from this, it is full of stirring adventure and wild narrative.

RESULTS OF HYDROPATHY; or Constipation not a disease of the Bowels; Indigestion not a disease of the Stomach; with an Exposition of the true nature and cause of these Ailments, examining the reason why they are so certainly cured by the hydropathic treatment. By Edward Johnson, M. D., pp. 181. Price 0cts. Wiley & Putnam. We are not Doctor enough to pronounce *ex cathedra* (authoritatively) on the subject of hydropathy. But this we know, that ablution in cold and warm water, and in the vapor bath, are highly beneficial; and if practised much more than at present would be greatly conducive to the health of the people. Frequent ablution is a sacred duty with many of the Eastern nations; we wish a good spunging and friction with towels were the daily duty of this great nation of ours in the West. This, with a plain wholesome diet, and abstinence from spirituous and fermented liquors, would, in a future generation, drive nine-tenths of the diseases out of the country.

LIFE IN PRAIRIE LAND. By Eliza W. Farnham. Pp. 408. Price 50 cents. Harper & Brothers. These sketches are truly national and graphic, and told in an alternate style of the gay and grave, the comic and the pathetic. They are very like "A New Home," by Mrs. Clavers, though far from imitation. In truth they are as original as the scenery and people they describe. In after generations they will be studied as a true index of the character of our own in the wild region where the scenes are laid. We have the pleasure of the acquaintance of the fair authoress, and can tell our readers that she is a *clever* woman both in the English and Yankee acceptation of the term.

NUMBER OF COTTON SPINDLES.—According to the latest accounts, the estimate of the spindles now at work in the principal cotton manufacturing countries is

| | Spindles |
|---|---|
| In Great Britain and Ireland, | 17,500,000 |
| In the States comprised in the Custom League, | 815,000 |
| In Austria and Italy, | 1,500,000 |
| In France, | 3,500,000 |
| In Belgium, | 420,000 |
| In Switzerland, | 650,000 |
| In Russia, | 700,000 |
| In the United States of America, | 2,500,000 |
| Total, | 27,585,000 |

PICTORIAL HISTORY OF ENGLAND, INCLUDING THAT OF SCOTLAND AND IRELAND. Being a history of the People as well as a History of the Kingdom, down to the reign of George III.; profusely illustrated with many hundred engravings on wood of monumental records; coins; civil and military costume; domestic buildings, furniture and ornaments; cathedrals, and other great works of architecture; sports and other illustrations of manners; mechanical inventions; portraits of eminent persons; and remarkable historical scenes. To be completed in about 40 Numbers, forming four elegant volumes imperial octavo. Price 25 cents per number. Harper & Brothers. This history forms one of the series of valuable works issued by the Society for the Diffusion of Useful Knowledge, and is undoubtedly the very best for the general reader that has yet been written on Great Britain and Ireland. The embellishments are really beautiful, and so numerous as to form a history almost of themselves alone; making it the most attractive work for young people we know of—aye, and for the middle aged and the old too. No one can be well acquainted with England who has not read its Pictorial History. The Messrs. Harper are doing the American public a great service by its republication.

STABLE TALK AND TABLE TALK; or Spectacles for Young Sportsmen. By Harry Hieover. Pp. 357. Price $1.00. Lea & Blanchard. The writings of this author have attracted a good deal of attention in England; and his observations on the management of horses, the stable, &c., are highly esteemed. He inculcates gentleness and kindness in their treatment, and shows the impolicy of the reverse method even if one has no other motive than his own immediate interest to actuate him. In addition to this, the work is replete with anecdotes and amusing scenes told in an off-hand and comic vein.

FRENCH DOMESTIC COOKERY, combining elegance with economy; describing new Culinary Implements and Processes; the management of the Table; instructions for Carving; French, German, Polish, Spanish, and Italian Cookery, 1200 recipes. Pp. 340, with numerous engravings. Price 50 cents. Harper & Brothers. Now if our readers wish to become *au fait* in the sublime art of Cookery, let them purchase this book and set themselves down incontinently to the perusal thereof. The French are acknowledged to be the best cooks in the world, and this, from our own experience, we can attest as a fact, having resided some time among them, and partaken very frequently, with an indescribable gusto, of their exquisite *cuisine*.

**The Trees of America**; Native and Foreign, pictorially and botanically delineated, and scientifically and popularly described; being considered principally with reference to their Geography and History; Soil and Situation; Propagation and Culture; Accidents and Diseases; Properties and Uses; Economy in the Arts; Introduction into Commerce; and their Application in useful and ornamental Plantations. Illustrated by numerous Engravings. By D. J. Browne, Author of the Sylva Americana. Large 8vo. pp. 532. New York: Harper & Brothers, 82 Cliff St. This work, long announced as in preparation, has at length been laid upon our table, and we hasten to give our readers some idea of its contents, and of the manner in which it has been executed. We need not, however, enlarge much upon the latter point, as the public have had ample opportunity to form a correct opinion of the capabilities of the author from numerous contributions from his pen which have appeared in the Agriculturist. Many years have been employed in studying, travelling and collecting materials for this publication; and though of course it does not come under the category of an entirely original work, yet it has entailed an equal amount of labor, in consulting the most approved authorities, and of judgment and observation in verifying or correcting their statements.

The title of the work, which we have quoted at length, sufficiently indicates its nature, and the mass of detail which it comprises. The trees are arranged according to the Natural System, which has been adhered to by De Candolle, Loudon and others. But our readers must not imagine, from our beginning to talk of Systems, that the work is intended for the scientific alone. It is addressed to a much more numerous class—even to the public at large. Let us take one tree and see how it is treated, and that will serve as a sample for the whole. Our favorite fruit being in season, we irresistibly turn to the Peach-tree. First we find the Botanical name, with a Table of Synonyms, and a few lines of technical characteristics, in small type. Then comes a general description of the tree, and its varieties, short but to the purpose; then the geography, history, soil, &c. &c., with uncommonly minute directions as to its management and propagation, and an account of the diseases to which it is subject and the insects which infest it, ending with its properties and uses. All this is conveyed in a pleasing style, totally devoid of affectation, and not obscured by scientific terms, as is proper for a work intended for the public at large. It is exceedingly gratifying to observe the happy manner in which amusement is blended with instruction throughout the volume; side by side with veritable history comes the classic legend, or the popular superstition, or the tribute of the poet, filling the page with variety and the mind with romantic associations. This characteristic is so pervading that many might read it with interest who hardly know an oak from an apple tree, and who have no more idea of cultivating the latter than they have of eating the fruit of the former. But it is to the farmer in particular that we would strongly urge the importance of such a work as the present. He should not be so entirely engrossed by his root and grain crops, as wholly to neglect the cultivation of trees. We fear this is too frequently the case, with the exception perhaps of a few fruit-bearers.

The Engravings are numerous, and are executed with considerable skill, "and have either been made directly from drawings after nature, or from accurate delineations already in existence, one figure representing the general appearance of each tree, and another of the leaf, flower fruit, &c." The publishers have acquitted themselves handsomely in getting up the work—the paper, type, &c., being all that can be desired. No expense has been spared to render it worthy of the subject of which it treats; and we trust that the author will meet with such substantial encouragement, as will induce him to carry out the intentions which he expresses in his Preface.

We heartily commend this handsome volume to our friends both here and in the country; we commend it to the inhabitants of New York and Brooklyn, who, we are glad to perceive, indulge themselves, as much as limited space will allow, in the cultivation of trees; we commend it to State and County Societies as contributing a valuable premium to be contended for by agriculturists; and, finally, we hope that those who control our Colleges, Academies and Common Schools, will take care that the youth under their charge have every opportunity of gaining a thorough knowledge of the Trees of America.

**Temper and Temperament**; or Varieties of Character. By Mrs. Ellis. Pp. 267. Price 50 cents. Harper & Brothers. This is a clever book by a clever woman, conveying a happy moral in a pleasing style. We especially commend it to the married, and those about to marry. However amiable their tempers and temperament may be, we promise them that the perusal of this little work will make them still more kind and obliging to each other and to all around them.

**Town's Spelling and Defining Book**; containing Rules for designating the Accented Syllable in most words in the language, being an Introduction to Town's Analysis. One hundredth edition. Critically revised and corrected. Cincinnati: Derby, Bradley & Co., 113 Main St. 1845. The author of this little work remarks in his preface that "All the spelling books now in use follow out the same uniform plan, of arranging words according to their sounds and syllables, irrespective of their import. On that plan, they are generally well executed, and would admit of little improvement. But if the above principle be well founded, something is still requisite, beyond a mere judicious arrangement and correct orthography, to answer the grand purposes of elementary instruction. It is plain that, as far as practicable, the knowledge of the *sign*, and of the *thing signified*, should be acquired together, inasmuch as *both* are to hold an inseparable connection in the mind."

**Long Island Horticultural Society Show.**—This will take place at Flushing on the 17th, 18th and 19th of September. Great preparations are on foot to make a superb display of it, and we have no doubt it will be worthy the attention of the public. Steamboats and Stages will leave New York frequently during each day of the Show, making it easy to visit Flushing at convenient hours.

**The Bible, the Koran, and the Talmud**; or Biblical Legends of the Mussulmans. Compiled from Arabic Sources, and Compared with Jewish Traditions. By Dr. G. Weil. Pp. 264. Price 50 cents. Harper & Brothers. Here is an epitome of Mohammedan theology and morals, set forth in a racy, fascinating style peculiar to Eastern literature.

**The Cultivation of American Grape Vine, and Making of Wine.** By Alden Spooner. Pp. 96. Price 38 cents. Published by A. Spooner & Co., 57 Fulton St., Brooklyn. Being a veteran horticulturist, the author has given a valuable little work to the cultivator of this vine. In it he has also embraced an account of the Isabella Grape, in the successful culture of which Brooklyn has become quite celebrated.

**Rennselaer County Agricultural Show.**—This Show will come off in Troy, the week after that of the State Show at Auburn. Great preparations are on foot to make a superior thing of it. Mr. Vail intends to make a large display of his beautiful Short-Horn Cattle; others also are coming forward with a goodly number of different things.

## REVIEW OF THE MARKET.

### PRICES CURRENT IN NEW YORK, AUGUST 22, 1846.

| | | | | |
|---|---|---|---|---|
| ASHES, Pots, | per 100 lbs. | $3 50 | to | $3 56 |
| Pearls, | do. | 4 06 | " | 4 12 |
| BALE ROPE, | lb. | 5 | " | 7 |
| BARK, Quercitron, | ton, | 22 00 | " | 24 50 |
| BEANS, White, | bush. | 1 12 | " | 1 25 |
| BEESWAX, Am. Yellow, | lb. | 26 | " | 30 |
| BOLT ROPE, | do. | 12 | " | 13 |
| BONES, ground, | bush. | 40 | " | 55 |
| BRISTLES, American, | lb. | 25 | " | 65 |
| BUTTER, Table, | do. | 16 | " | 25 |
| Shipping, | do. | 9 | " | 13 |
| CANDLES, Mould, Tallow, | do. | 9 | " | 11 |
| Sperm, | do. | 25 | " | 38 |
| Stearic, | do. | 20 | " | 25 |
| CHEESE, | do. | 5 | " | 10 |
| COAL, Anthracite, | 2000 lbs. | 5 00 | " | 6 00 |
| CORDAGE, American, | lb. | 11 | " | 12 |
| COTTON, | do. | 6 | " | 11 |
| COTTON BAGGING, Amer. hemp, | yard, | 13 | " | 14 |
| Kentucky, | do. | 11 | " | 12 |
| FEATHERS, | lb. | 25 | " | 34 |
| FLAX, American, | do. | 8 | " | 9 |
| FLOUR, Northern and Western, | bbl. | 3 62 | " | 4 25 |
| Fancy, | do. | 4 38 | " | 5 00 |
| Southern, | do. | 3 50 | " | 4 12 |
| Richmond City Mills, | do. | 5 50 | " | 5 75 |
| Rye, | do. | 2 50 | " | 2 75 |
| GRAIN—Wheat, Western, | bush. | 90 | " | 1 00 |
| Southern | do. | 80 | " | 90 |
| Rye, | do. | 73 | " | 75 |
| Corn, Northern, | do. | 55 | " | 60 |
| Southern, | do. | 60 | " | 54 |
| Barley, | do. | 47 | " | 49 |
| Oats, Northern, | do. | 29 | " | 30 |
| Southern, | do. | 23 | " | 25 |
| GUANO, | do. | 2 00 | " | 3 00 |
| HAY, in bales, | 100 lbs | 45 | " | 55 |
| HEMP, Russia, clean, | ton. | 215 00 | " | 225 00 |
| American, water-rotted, | do. | 105 00 | " | 185 00 |
| American, dew-rotted, | do. | 75 00 | " | 125 00 |
| HIDES, Dry Southern, | do. | 7 | " | 8½ |
| HOPS, | lb. | 12 | " | 18 |
| HORNS, | 100. | 1 00 | " | 7 00 |
| LEAD, pig, | do. | 3 56 | " | 3 75 |
| Sheet and bar, | lb. | 4 | " | 6 |
| MEAL, Corn, | bbl. | 2 56 | " | 3 00 |
| Corn, | hhd. | 14 75 | " | 15 50 |
| MOLASSES, New Orleans, | gal. | 28 | " | 31 |
| MUSTARD, American, | lb. | 16 | " | 31 |
| NAVAL STORES—Tar, | bbl. | 1 75 | " | 2 00 |
| Pitch, | do | 1 00 | " | 1 06 |
| Rosin, | do. | 55 | " | 65 |
| Turpentine, | do. | 2 50 | " | 2 50 |
| Spirits Turpentine, Southern, | gal. | 30 | " | 35 |
| OIL, Linseed, American, | do. | 55 | " | 57 |
| Castor, | do. | 60 | " | 73 |
| Lard, | do. | 58 | " | 60 |
| OIL CAKE, | 100 lbs. | 1 25 | " | 1 50 |
| PEAS, Field, | bush. | 1 25 | " | 1 59 |
| PLASTER OF PARIS, | ton. | 2 38 | " | 3 00 |
| Ground, in bbls., | of 300 lbs. | 1 12 | " | 1 25 |
| PROVISIONS—Beef, Mess, | bbl. | 6 25 | " | 9 00 |
| Prime, | do. | 4 25 | " | 5 50 |
| Smoked, | lb. | 6 | " | 9 |
| Rounds, in pickle, | do. | 4 | " | 6 |
| Pork, Mess, | bbl. | 9 50 | " | 12 00 |
| Prime, | do. | 7 88 | " | 9 00 |
| Lard, | lb. | 5½ | " | 7 |
| Bacon sides, Smoked, | do. | 3 | " | 4 |
| In pickle, | do. | 3 | " | 4 |
| Hams, Smoked, | do. | 6 | " | 10 |
| Pickled, | do. | 4 | " | 7 |
| Shoulders, Smoked, | do. | 5 | " | 6 |
| Pickled, | do. | 4½ | " | 5 |
| RICE, | 100 lbs. | 3 00 | " | 4 00 |
| SALT, | sack, | 1 40 | " | 1 50 |
| Common, | bush. | 20 | " | 35 |
| SEEDS—Clover, | lb. | 6 | " | 9 |
| Timothy, | 7 bush. | 10 00 | " | 16 00 |
| Flax, clean, | do. | 10 00 | " | 11 00 |
| rough, | do. | 8 50 | " | 9 00 |
| SODA, Ash, cont'g 80 per cent. soda, | lb. | 3 | " | 3 |
| Sulphate Soda, ground, | do. | 1 | " | — |
| SUGAR, New Orleans, | do. | 5 | " | 7½ |
| SUMAC, American, | ton, | 35 00 | " | 37 50 |
| TALLOW, | lb. | 6½ | " | 7½ |
| TOBACCO, | do. | 2 | " | 2½ |
| WHISKEY, American, | gal. | 19 | " | 21 |
| WOOLS, Saxony, | lb. | 35 | " | 60 |
| Merino., | do. | 25 | " | 30 |
| Half blood, | do. | 20 | " | 25 |
| Common do | | 18 | " | 20 |

REMARKS.—*Ashes* little inquiry. *Cotton* active, with sales at an advance of one-eighth. *Flour* steady. *Grain*, except in rye, the sales are dull. *Molasses* in fair request. *Naval Stores* the same. *Beef* and *Pork* firm, with an increased demand. *Rice* active. *Seeds* dull. *Sugar* a slight advance. *Tobacco* in moderate request. *Wool* considerable sales.

*Money* continues fairly abundant at 7 per cent.

*Stocks* are steady, with few fluctuations.

*The Weather* has been very hot most of the past month, but has now changed to cool and showery. Hay has been a very large crop, though owing to the heavy rains, not as well secured as usual. The small grains have turned out well, except in Western New York, and a few other districts, where the wheat is much rusted and shrunk. Corn is a great crop. Potatoes are badly rotting in most parts of the country. Cotton is backward, and at best a moderate crop only can be gathered. Rice has come in well. Sugar and Tobacco generally are looking well. Upon the whole, we can congratulate the farmers and planters upon more than an average production of the crops thus far, this season.

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TO CORRESPONDENTS.—Communications have been received from Alexander McDonald, John Lewis, Wm. Murdock, L. T. Talbot, J. C ****t, An Amateur Gardener, and A Summer Resident of East Jersey.

The Editor of the Maine Cultivator is informed that we know of no pure *Cheviot Sheep* short of Wisconsin, and that these are held at a high figure. Improved Cheviots always command high prices in Scotland, say from 5 to 20 guineas each.

In answer to J. B. of Annapolis, concerning "Destroying the Wheat Fly," quoted from the Quebec Gazette, in our last No., he is right in supposing that orpiment is the *auri-pigmentum* of old chemists, or the sulphuret of arsenic, of the moderns. We presume it is meant that the burning of this article should be on the windward side of a field of wheat, at a yard or two distant, in order to drive the insects away.

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### PLEASE TO TAKE NOTICE,

That Mr. C. W. Hubbell is no longer authorized to take subscriptions for the American Agriculturist, and that the authority given by the publishers, Saxton & Miles, is hereby revoked. All persons are forbid paying the said Hubbell any monies for this paper hereafter.

*New York, August 24th*, 1846.

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ACKNOWLEDGMENTS.—List of Premiums of the 19th Annual Fair of the American Institute, to be opened on the 9th of October, at New York, has been received—also of the Fair to be opened at Hartford, Ct., on the 23d of this month—and of the Hamilton County Agricultural Society, to be held at Carthage, N. Y., on the 24th to 26th instant—likewise a Prospectus from Lindley Murray Ferris, President of the Orange County, N. Y., Scientific and Practical Agricultural Institute.

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MERINO BUCKS.—We understand that Mr. A. L. Bingham, of Cornwall, Vermont. will exhibit 30 to 40 head of Merino Bucks, at the N. Y. State Ag. Show at Auburn, this month, most of which will be for sale.

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### AGENTS FOR THE AMERICAN AGRICULTURIST.

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September, 1846. 2t

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Flushing, Long Island, September 1st, 1846.

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ROTTERDAM

# AMERICAN AGRICULTURIST.

*Agriculture is the most healthful, the most useful, and the most noble employment of man.*—Washington.

**VOL. V. NEW YORK, OCTOBER, 1846. NO. X.**

A. B. Allen, Editor. Saxton & Miles, Publishers, 205 Broadway.

## TO POSTMASTERS.

Many of the Postmasters throughout the Union do not seem to know that letters on *Post-office business* go free. It is only necessary to mail the letter unsealed, and write outside upon it "P. O. Business," with the name of the Postmaster, and where mailed. For example, if a paper has a wrong direction, or it be refused, or anything of the kind takes place, by following the above directions, we can be informed of the facts without taxing us with postage. Postmasters ought, in all cases, to make themselves acquainted with their privileges. We trust that those unacquainted with the law will excuse this paragraph, as we have frequently had to pay postage on their letters, when they could have gone free.

## TO PRESERVE GRAPES.

Take a well-bound cask, from which the head is to be removed, and place at the bottom a good layer of fine saw-dust or bran. On this place a layer of grapes, then bran and grapes alternately, until the cask is full, taking care that there is sufficient bran between each layer of grapes to prevent their touching each other. Put on the head, which is to be cemented, and the grapes will keep well for a year. When used, in order to restore their freshness, cut the stalk of each bunch, and place it in wine, as flowers are placed in water.

## CATTLE SHOW AND FAIR OF THE AMERICAN INSTITUTE.

*Programme of the General Arrangements.*—Specimens of all kinds of fabrics of Art, Machines, Models, Inventions, &c., intended for competition, must be delivered, and entered on the books of the Fair, at Castle Garden, October 1st, 2d, or 3d, viz., Thursday, Friday, or Saturday. The chance for a favorable location will be increased by an early delivery, which should not be later than Friday or Saturday afternoon.

*First Week of the Exhibition.—Monday, Oct. 5th.*—The Fair will open to the public at 12 o'clock, M. Vegetables, Fruits, Flowers, &c., for the Horticultural Room, should be brought early this morning. Fresh supplies of Flowers are desired every day. At 7½ o'clock, P. M., the Opening Address will be delivered by the *Hon. Mahlon Dickerson*, of New Jersey, President of the Institute. After which there will be a grand display of Fireworks.

*Tuesday, Oct. 6th.*—The Horticultural Exhibition opens this morning at 9 o'clock. An Address by a member of the Institute, at 12 o'clock, M.

*Wednesday, Oct. 7th.*—The Steam Engine, with the long range of Machinery, will be in operation this day. At 9 o'clock, P. M., a display of Fireworks.

*Thursday, Oct. 8th.*—At 3 o'clock, P. M., an Address.

*Friday, Oct. 9th.*—Plowing and Spading Matches. An Address in the field.

*Saturday, Oct. 10th.*—The evening will close with a splendid display of Fireworks.

*Monday, Oct. 12th.*—Entries of Cattle and other Live Stock must be made on or before this day, and pedigrees delivered. *National Convention of Farmers, Gardeners, Silk Culturists, and their Friends*, at 11 o'clock, A. M., at the Mechanics' Hall, No. 472 Broadway.

*Tuesday, Oct. 13th.*—Making lists of Cattle. Agricultural Convention continued.

*Wednesday, Oct. 14th.*—First day of Cattle Exhibition. They must be on the ground by 9 o'clock, A. M. Agricultural Address at 7½ o'clock, P. M.

*Thursday, Oct. 15th.*—Second day of Cattle Exhibition. **Anniversary Address** in the Tabernacle, at 7½ o'clock, P. M. The New York Sacred Music Society have, as usual, kindly volunteered their services. Visitors may obtain tickets free of charge, at the Clerk's desk.

The Managers desire strongly to impress exhibitors with the necessity of bringing their contributions early, to avoid the crowd and confusion usual on Saturday afternoon and evening, and the delay caused thereby, in well arranging, in season, the articles for opening the Exhibition, which will not be delayed beyond 12 o'clock on Monday, the 5th of October. Again, the Judges meet early the first week, when the examination takes place of articles for competition, after which a re-examination will not be admissible. Further conditions and regulations of the Fair will be posted on the desk and in other parts of the Garden. A label accompanying the articles, with the price and place where sold, would be a convenience to purchasers, and for the interest of the exhibitor.

In no case, whether there are competitors or not, will any article be entitled to a premium, if undeserving of particular commendation.

At the last Fair, 34 gold medals, 35 silver cups, 181 silver medals, 255 diplomas, 170 dollars in cash, and 128 volumes of books, were awarded as premiums. They will be increased at the coming Fair.

The importance of an Annual National Exhibition in so central a situation as New York, the great mart of trade, where producers of all occupations resort in such multitudes, is obvious. It ensures a full display of the most perfect specimens from the fields, the gardens, the factories and workshops of our country; and enables the accurate observer to compare improvements from year to year, and note the progress of our growing republic, in producing and multiplying the enjoyments of life. The visitors, at a single Anniversary, have exceeded two hundred thousand, representing most of the States in the Union—an assemblage that has no parallel in this country. T. B. Wakeman, Sec'y.

*New York, October*, 1846.

## POPULAR ERRORS.—No. 1.

Under this head we intend to write a series of articles showing up various fallacies in practice among the good people of our country. They will be theoretical or practical according to the subjects treated, and as we happen to be in the mood. For any hints from our friends by way of assisting to carry out our scheme, we shall be much obliged. We shall aim to make the articles entertaining as well as instructive.

*Changing Seed.*—There is no greater popular error than this, namely, that it is beneficial to bring seed from a distant field or farm, or different section of the country, or even a foreign land, for the purpose of *change*, in supposing that this *change alone* will obtain a superior crop, except occasionally from a high latitude to a low one, and sometimes *vice versa*. Ask the reason for this opinion, and the ordinary answer is, "Well, I don't know, but I *reckon* or *guess*," as the case may be, "it is a good thing to *change*. After a while, things in our country run out, and come to nothing, and to keep 'em up we must make a *change*." Ask the man of science the same question, and he will answer, "that after growing a certain kind of grain, vegetable, or plant, in the same soil for a series of years, the said soil will become exhausted of the necessary elements to perfect the said grain, &c.; that it then inevitably deteriorates, and must be renovated by bringing similar grain from a distant locality, grown in a soil with somewhat different elements, and that such seed will be sure to produce with pristine vigor." And forthwith he adopts the *change*, without inquiring whether the seed actually has the exhausted elements required in it, or reflecting whether an article so small as many seeds are—wheat for example—can possibly hold a sufficiency of said elements to increase its growth of straw and grain in said exhausted soil, sufficiently to make it a good crop.

We hold it utterly impossible in this instance, and most others; for what is now wanted is as plain as the nose on a man's face. It is this: not a *change* of seed, but a *restoration* of those elements to the soil of which it has been exhausted by the crops carried off. For example, in wheat. Potash is the principal matter which has been carried off in the straw; gluten and starch in the grain; so that to grow good wheat again on the exhausted soil, it must be dosed with barn-yard manure, or muck, or vegetable mould, or with ashes, charcoal dust, lime, and bones. Then we may have good wheat again without the necessity of *change* of seed. Indeed, the seed may be improved rather than deteriorated by constantly growing it on the same soil, as has been repeatedly proved in this country.

*Trees and Shrubbery Around the House.*—A great error in disposing of these, lies, in planting them too near buildings—the house especially. No large growing tree should be nearer to the house than 100 feet, and if several acres of lawn are around, a distance of 200 or 300 feet would be still better. The smaller growing trees and shrubbery should be proportionally near.

The objections to trees being placed near to buildings are, first, if ever blown over they endanger the house; second, they keep the sides and roof so constantly damp, that if of wood, it decays much faster than it otherwise would; third, they harbor flies and mosquitoes; fourth, they hide the view of the surrounding country, and make the house dark and gloomy.

There is nothing so beautiful immediately around the house as a well-kept lawn, interspersed with little mounds of flowers, and an occasional flowering shrub. English grounds are thus arranged, and they are usually in much better taste than in America. If shade be wanted, it is much better to have a verandah running all round the house, with Venetian blinds or a movable canvass curtain attached to it in front. This is the plan adopted at the South, where their houses are kept as cool in the summer as ours are at the North, and without the danger, annoyance, and gloom, of trees planted too near.

**Cydonia Japonica.**—The fruit of this handsome flowering shrub, which is abundantly produced, is a great improvement to an apple tart, if cut into thin slices or finely minced. One fruit is sufficient for a small tart, and two for a large one.

## THE ALPACA.—No. 5.

*Diseases, &c.*—Inca Garcilasso tells us of a plague, wearing all the symptoms of a malignant cutaneous disorder, which attacked the tame as well as the wild varieties, and by the Indians was called *carache*, literally meaning the itch. This epidemic occurred towards the year 1544, and the disorder chiefly showed itself under the belly and round the joints, on those parts most divested of hair, and, spreading outrageously, carried off nearly two-thirds of the country sheep, from which period they have never been so numerous as before. It even reached the guanaco and vicuña, but among them was not so destructive, in consequence of their inhabiting a colder region, and not going so much in flocks as the tame breeds. This, however, was a rare occurrence, occasioned, no doubt, by the state of the atmosphere, as it extended to the foxes and other wild animals, and one that has never since befallen the country. It has frequently been remarked in Peru, that both the llama and alpaca, when taken down to the lowland towns, and kept there as pets, perspire as soon as the hot weather comes on, and, if neglected, a scurf forms on the skin. In their new character the coat is, of course, carefully preserved, as being ornamental; but if it is shorn off, and the animal bathed in the cool part of the day, before the system has been heated by exercise, or the natural warmth of the climate, the sufferer, in a short time, invariably recovers. It therefore, follows, that the loss of their fleece at the proper season is serviceable to these sheep, and helps to preserve them in good health.

Dr. Unanue, speaking of the climate of Lima, remarks "that cold and damp, suddenly coming on, are apt to check perspiration, which produces an irritation on the skin, and this, if neglected, ends in an eruption, and finally in the itch; but that, when taken in time, it is easily cured by a cooling medical treatment." The same causes produce similar effects on the alpaca. Soon after leaving the sultry coast of Peru, shut up in a crib fastened to the deck, the poor animals are hurried through the variable latitudes of Cape Horn, where heavy gales frequently occur, accompanied by torrents of rain, which necessarily must affect the prisoner. The first visible symptom is, that the animal experiences a nausea or sea-sickness, and abstains from food; in which case it droops, lingers, and dies. If, however, it has the spirits to accept the dry provender offered, sometimes tainted with bilge water, guano manure, or otherwise affected by the smell of the vessel, it survives in a weak and languid state; but too often contracts the disorder complained of, in consequence of the wet and cold currents of air, under the sails, to which it has been exposed, and through neglect and long standing, the eruption assumes a serious character.

The cooling remedy above pointed out they themselves seek; for when taken down to the heated atmosphere of the plains, should this rash break out, both the llama and alpaca instinctively go in search of a refreshing stream. This Mr. Stevenson noticed in his llamas, erroneously supposing that it was with a view to allay thirst. No alpaca run, therefore, if possible, should be without a rivulet; one, indeed, that in some part has a depth equal to three feet, but, if more, it ought to be paled off.

"Proper treatment," says Mr. Walton, "is not, however, the only point to be taken into consideration. In my own mind I have long been convinced, that the mode of obtaining these animals in Peru was injudicious, and, as regards the ruinous manner in which they are generally brought over, the facts already adduced will speak for themselves. I have even ventured to think that there are better breeds on the Andes slopes than those usually sent to Europe The first proposition is placed beyond doubt by the incontestible evidence of General O'Brien, who, a few days after visiting Knowsley, wrote to me thus:—

"'I think that the mode generally used for bringing the alpaca over to this country is defective. For instance, the captains of ships who arrive on the coast of Peru, give an order for two or three pairs, which are brought down from the interior, say fifty leagues' distance. The captain, who cannot be a judge of the animal, is glad to take what he can get, good or bad, as the first cost is only trifling, say from eight to twelve shillings each (about $3). He then puts them on board, with some dried clover. The animals are sure to be old ones, as the aborigines are cunning enough to keep the younger stock for themselves, and one-half die before the vessel doubles Cape Horn. The others, which the captain brings to England, not unfrequently are old and past bearing, and even live only a short time—but why? Because, I answer, they are placed on some rich and heavy soil, probably in a park, as I have seen them at the Earl of Derby's and other places. They do not there enjoy the high mountain air; they become sickly, and then probably comes on the mange. Their native home is at least 10,000 feet above the level of the sea. The highest and most barren mountains in this country would be more congenial to the animal. Although the Earl of Derby, and others here, take particular care of them, yet those gentlemen must pardon me when I say that they are mistaken. I speak from experience; for I have bred some thousands, and also used them as beasts of burden to carry down the ores from my mines.'

"Nothing can be more just than these remarks. Too liberal an allowance of rich and stimulating food to an animal extremely abstemious, and habituated to live on coarse and light herbage, and that in small quantities, must be injurious; but, above all, if we are to have alpacas, let us begin by placing them in a suitable climate, the more necessary after a long and tormenting voyage.

"Convinced that one-half of the failures in rearing Peruvian stock were attributable either to wrong food or over-feeding, I wrote to Alfred Higginson, Esq., surgeon, of Liverpool, to whom, in 1841, I was indebted for an interesting series of remarks on the stomach and intestines of two alpacas dissected by himself. Knowing that his attention had ever since been directed to the same subject, and that subsequent opportunities had presented themselves to him of further examining the digestive organs of several more which died without any ostensible cause, I requested him to favor me with the results of his last operations, which he politely did under date of May 15th, and in these words:—

"'Of the three dissections of alpacas dying in this neighborhood, the last was, perhaps, the most important, and most characteristic of over-feeding, of which there were, however, signs in all. It may be nearly two years since my examination of the last, which died in a pleasant part of the country, a few miles from Liverpool, and where, as I am informed, the animal had the range of a paddock, with several more of its kind, and had sufficient access to water at all times. I found no fat in the interior cavities of the body of this, or the other animals; but on the surface it was rather more abundant in this than in the other two. It was a female, and the state of the bones showed it to be not quite fully grown.

" 'The viscera of the chest were in a healthy condition; but those of the abdomen drew my attention as being out of order in, perhaps, several respects. The stomach was much gorged with food, hay, and oats; the former very imperfectly masticated, and the latter quite whole. Whether their condition varied in the different cavities I cannot say, as the stomach, being wanted for a preparation, was not cut open, but evacuated of its contents through the œsophagus, with much difficulty. Large quantities of half-digested food loaded the intestines; whole oats and hay, in a still fibrous state, being found in the small intestines, and much hard fœcal matter in the large intestine.

" 'The intestines were pretty extensively adhering to each other by their peritoneal coat, on which a rough deposit of crystalline particles, of great minuteness, but very numerous, had taken place. This deposit having formed most in the parts most dependent after death, made me think that it was probably of *post mortem* occurrence; and I have lately been confirmed in this opinion, by observing the same to have occurred in a dead rabbit. I thought the coats of the bowels weaker in some parts than is natural, for they gave way very easily, chiefly in the small intestines, in attempting to wash out their contents with water. The head was not opened, and the immediate cause of death may, therefore, have had its seat in the brain; but there is no doubt that such a state of repletion with food would much predispose an animal to fatal disorders. I have not had such opportunity of observing the diseased state of the alpaca's feet, as to give any definite notions on the subject of its ordinary appearance and course.'

"The preceding results clearly show that the animal dissected, besides having taken improper nourishment, had been over-fed—the mistake committed by the greater part of our early breeders, and the one which, beyond all doubt, gave rise to many deaths. Mr. Edwards confesses that, at the beginning, his alpacas 'had a good deal of hard food—oats, beans,' &c., besides grass and hay; but when they died so rapidly, he discontinued the practice, and only gave them grass, hay, and vegetables. Notwithstanding Mr. Stirling's success, I here take occasion to repeat, that the experiment of giving beans to animals accustomed to succulent herbage, is, in my opinion, a dangerous one. Their peculiarly framed stomachs are not adapted for dry and hard food, the best proof of which is their habitual abstinence from water. If, at home, they are ever treated with grain, it is maize or millet, in their green, soft, and milky state. A Peruvian would laugh to see us giving them substances which we ourselves could not masticate until they have passed through the millstones. The herbage which they cull on their native hills, is to them meat and drink, and they vary it according to taste and the season. They select it themselves on a wide range, in this respect evincing a strong instinct; and if it is wished that they should prosper, they must be allowed to do the same with us.

"There is not, I feel assured, any disorder to which Andes sheep are liable, either at home or here, that could prevent them from being successfully bred in our isles. Mr. Tayleure mentions the disease with which his little flock was afflicted; but insinuates that the circumstance was owing to contact with animals imported subsequent to the possession of his first alpacas. Mr. Edwards remarks, that those he had were subject to the scab, and seldom free from it; but at the same time gives us to understand, that this disorder was attributable to the nature of the food of which the strangers partook. The other breeders agree that they have fared well, even in situations by no means eligible; and their earlier maturity with us is an additional proof that the climate agrees with them, and that on our pastures they find kindly herbage"

## TENDENCY OF LIME TO SINK BELOW THE SURFACE OF THE SOIL.

It is remarked by Dundonald, in his "Treatise showing the Intimate Connection that subsists between Agriculture and Chemistry," that lime is known to have a tendency to sink below the upper surface, and to form itself into a regular stratum between the fertile and the unfertile mould. After breaking up pasture ground that formerly had been limed on the sward, it is frequently observed in this situation. This has been generally ascribed to its specific gravity, and to its acting in a mechanical manner. In gravelly, or sandy soils, there can be no doubt but that the diffusibility and smallness of the particles of lime will induce it mechanically to sink through the larger particles of the sand or gravel, and to remain at rest on the more compact stratum which may resist its passage.

When lands of this description have been limed, and kept constantly under annual crops, the greater mechanical process of the plow will operate against the lesser one of subsidence, and keep the lime diffused through the soil; but in clayey or loamy soils, which are equally diffusible with lime, and nearly of the same specific gravity, the tendency which lime has to sink downwards cannot be accounted for simply on mechanical principles.

In lands of this description, under the plow, the lime is dispersed or mixed with the soil, until such time as these lands are laid down with grass seeds. After remaining in this situation at rest for a certain number of years, on breaking up, a floor of calcareous matter will frequently be found lying immediately beneath the roots of the grass (*a*). This effect, contrary to the general opinion of its being disserviceable, is of great utility, as the staple or depth of the soil is always increased and rendered less retentive of water in proportion to the distance which the lime penetrates downwards; and thus by increasing the depth of the soil a greater scope is afforded for the expansions of the roots and nourishment of vegetables. These effects of lime in soils, except in those that are gravelly or sandy, cannot be accounted for simply on mechanical principles, but may probably be explained on such as are chemical.

(*a*) Has this fact generally been observed by American farmers, who have given their land heavy dressings of lime? If so, to what cause do they attribute it? Have they derived any advantage thereby in clayey soils?

## PRICES OF PRODUCE.

We hear much complaint on the part of farmers, about the present low price of produce, and fears are expressed that they may be still lower. We are of opinion that this last cannot well be, our reasons for which are brief.

First, the potato crop is badly injured by the rot in Great Britain and Ireland; the consequence is, these countries will want large importations of Indian corn and wheat from the United States, to supply their place. Nearly a million bushels of Indian meal were given out last year, by the Government, for the use of the Irish peasantry, in consequence of their loss by the potato rot; and this, be it understood, notwithstanding the late high duties, and the strong prejudice of the people against this new article of food. Now, that prejudice is rapidly wearing away, and the article can be afforded at a much lower price. Owing to its nominal free admission, under the new British Tariff, the consumption for the coming year will be greatly increased. The potato rot in our own country proves much more extensive than last year, which will add something extra to the consumption of flour, meal, and rice. Second, an uncommon demand has lately sprung up in Germany for American rye, for distillation and other purposes, and this seems likely to be on the increase. Third, mechanics and manufacturers generally find full employment, and in our humble opinion are likely to continue to do so, notwithstanding the reduction of duties under the new American Tariff Act. In addition to this, several thousand persons the past season have left their agricultural pursuits and engaged in the Mexican war, and thus, for a *short* period at least, have made themselves consumers instead of producers. Fourth, business generally is very good, not only in this country but in Europe, giving active employment to the people. The combined effect of all this must have a tendency to keep prices from falling any lower than they now are.

But supposing produce to be lower this year than it was last, are not other things correspondingly so? We do not speak of the prices of flour during the insane speculations of last winter—for they were totally unwarranted, as subsequent events proved—but of the healthy ruling prices of the first ten months of the year 1845. Labor is cheaper, especially that of mechanics; and many kinds of manufactured goods are also cheaper, with a tendency to downward prices. Considering all things, the farmers have great cause to be thankful for their abundant crops, and that prices are so good as we find them.

## MOUNTAIN FARMING.

During the month of July last, we spent a week rambling among the farmers of the Catskill Mountains. Our main route was thus. We landed at Saugerties, passed up the Kauterskill Clove, down the valley of the Schoharie several miles below Plattsville, thence round to the head waters of the Delaware, thence to the sources of the Sodus Creek, and thence down its course to Kingston. During this tour we occasionally deviated from the main route, making short excursions through various defiles of the mountains, and ascending some of their loftiest peaks—among others, that of the Round-Top, the highest of all. The view from this peak is much more grand and extensive than from the celebrated fashionable resort—the Mountain House. Late barometrical observations make its height upwards of 4,000 feet above the level of the sea. The top is conglomerated rock, with very little soil upon it; yet, notwithstanding this, and its great height, the forest is quite dense. We found many of the trees from 35 to 50 feet high, with a diameter of 18 to 30 inches. Their growth seemed thrifty and vigorous. Quite a variety of flowers flourish there, and the mosses are beautiful, and very abundant.

The Catskill region embraces a surface of at least forty square miles, bristling with several hundred peaks, scarcely one less than 1,500 feet high, measuring from the base from which it springs. The scenery throughout is grand and varied. This is a much superior farming country to what we had anticipated. The land bordering the creeks is generally a rich alluvial, varying from a few rods to a quarter of a mile in width. We found all kinds of crops, except corn, growing up the sides, and on the table lands of the mountains, at least 3,000 feet above the level of the sea. The early kinds of corn ripen well in the valleys. Roots do exceedingly well here, especially turnips; and the grass is famous for its sweetness. Much of the butter passing under the name of *Goshen*, is made among the Catskills. It is a great dairy district, but we think it would be still more profitable if the higher portions of it were turned into sheep pastures. The soil generally is a red shale, formed by the disintegration of a reddish-brown slate stone. The rocks are of great variety.

We saw many excellent farms during our tour among the mountains, and found their owners intelligent, industrious, and disposed to make the most of their situations; but the general method of cultivating rough hilly land, throughout the United States, is wrong in the extreme. We conceive that this arises mainly from an erroneous principle, which is carefully instilled into the minds of American farmers. It is this—"every one should raise all he wants to consume on his farm and in his family." Acting upon this principle, the possessor of a rough mountain farm adopts precisely the same course in its cultivation that the owner of smooth fertile plains does. Can anything be more absurd? Just calculate the difference in the cost of plowing the one and the other; the carting out of manure and the harvesting and carting home of the crops; and then the difference in the yield is greatly in favor of the latter. Such is not the method of culture usually practised in Europe; though land there commands, on an average, four times the price that it does here, and labor is not more than half so dear.

If asked what would be our system of farming mountain land, we should reply, cultivate every alluvial valley and level spot in the most perfect manner, with grain and root crops; the next section above it we would devote to fruit trees, hay, and the pasturage of a fine-boned, medium-sized, hardy race of cattle, like the Devon, for instance, or Black Galloway; and the rougher or more mountainous parts, entirely to the pasturage of sheep. The surplus products for sale then, would be fruit, butter, cheese, cattle, sheep, and wool; and the only product necessary to purchase in return, would be wheat flour. Under this system little hay would be necessary, as we should dispose to drovers in the autumn all sheep and cattle, except such as were necessary to be retained for breeding the following spring.

Thousands of acres of mountain land in the United States, are annually put under the plow for a regular succession of grain and root crops, which in Europe would be kept undisturbed for sheep pastures, for they have well considered and experimented in the unprofitableness of rough hilly culture. Under this system not a fence is required, which would be a vast saving of expense. As soon as the forest is cleared off, the surface stones should be picked up and piled into heaps, and the land then be sown with a mixture of several of the best kinds of grass seed. When well set, turn on cattle and sheep in large herds and flocks, with shepherds and dogs to take care of them. In this way a few persons would manage several thousand acres at a trifling expense.

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**Death of Col. Alexander Macdonald.**—We deeply regret to learn that this gentleman died after less than a week's illness, at his residence, at Eufaula, Barbour County, Alabama, on the 16th of August last. His disease was fever. Col. MacDonald was President of the Barbour County Agricultural Society, and one of the most efficient promoters of agricultural improvement at the South. He was a frequent correspondent of this and other journals. He was a good citizen and professing Christian, and died in hopes of a blessed immortality. His loss will be severely felt in his community, nor will it be easy to supply his place.

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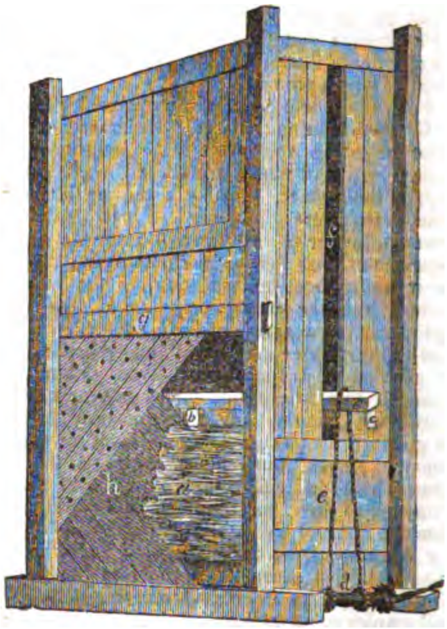
## ECONOMICAL HAY-PRESS.

Having had many inquiries for hay-presses from time to time, and not being able to answer them satisfactorily to ourselves, in consequence of those within our knowledge being either too cumbersome or too light to be efficient in their operation, we think we have now found one that will answer the purpose when only a limited quantity of work is required to be done, and the hay is not to be very densely pressed.

The description subjoined we trust will be sufficiently intelligible to enable any ingenious carpenter to build a machine of this sort after the iron castings are furnished, the whole press not costing over $40. A man and boy can easily press two tons of hay in a day, which may look like small business to some of our large hay-pressers; but it appears to us that such a machine is wanted by many of our small farmers who find it necessary to send their hay to market in its ordinary bulk. We are authorized to say that any one may build these presses without the fear of molestation of a patentee. A press of similar construction is in the possession of our worthy friend and correspondent, Mr. Tyler Fountain, of Peekskill, where it may be seen in operation, and who has furnished us with a drawing, and the dimensions of some of the materials of construction.



Hay-Press.—Fig. 70.

*a*, Hay when fully pressed.
*b*, Follower.
*c*, Pressing beam.
*d*, Windlass.
*e*, Rope or chain.
*f*, Aperture for guiding the pressing beam.
*g*, A bar for fastening up the door.
*h*, Section of the doors for retaining the hay.

*Dimensions of the Frame, &c.*—4 posts, 8 feet long, 4 inches by 4 inches; 5 girths, 5 feet 10 in. long, 4 in. by 4 in.; 6 cross-girths, 3½ feet long, 4 in. by 4 in.; lower ones 2 feet apart; 2 sills 7 ft. long, 10 in. by 4 in.; 4 cross-sills, 3½ feet long, 10 in. by 4 in.; inside lined with 1½ inch plank.

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**Proper Situation for a Green-house.**—The aspect of a green-house may be at any point from east to west, following the course of the sun; or it may even be a little to the north of east or west; but only a little, and the less the better, otherwise the plants will not generally thrive in it, nor will the flowers acquire their natural colors. A south aspect is to be preferred.

## NEW YORK FARMERS' CLUB.

The meetings of this Club have not been very fully attended the last few months, owing to the extreme heat of the season, the absence of many persons from the city, and the necessity of the farmers in the vicinity to remain at home and attend to their crops.

*Grafting the Tomato upon the Potato.*—Mr. Meigs read from the "Annals of the Royal Horticultural Society of Paris," an account of a successful experiment of grafting a stem of the tomato upon the stalk of a potato, by which a crop of tomatos was raised in the air, and one of potatoes in the earth. He also read from the same journal an extract from a paper by Baron D'Hombres-Firmas on a

*Journey to Pæstum,* in which it is stated that, near Naples, they cultivated large fields with gourds, and among them heads of cabbages, cauliflowers, salads, and other kitchen vegetables, all of which grow and prosper together. They also cultivate large quantities of melons, the consumption of which is enormous, for nearly half the year. These melons are preserved in winter suspended in straw under the roofs and about the windows of the houses both in the country and in town. Large fields of Indian corn were mentioned, the stalks of which served for beans to climb upon and ripen after the ears had been gathered. Plantations of mulberry-trees were also observed, entwined by grape-vines, and the grounds beneath them richly laden with bolls of cotton which are picked from August till October, and dried in the sun. The mulberry-trees, which shaded the cotton plants, after having fed two generations of silk-worms, were in vigorous leaf for the third time.

*Valencia Winter Melons.*—Mr. Charles Henry Hall, who resided several years in Spain, and particularly directed his attention to the products of that country, said, that the melons mentioned by the Baron of Hombres-Firmas, are the same as those known at Valencia by the name of *winter melons.* They are preserved there for half the year by being suspended in small nets under the projecting parts of the roofs of the houses, in a similar manner as they are in Italy. He said that, when he returned to the United States, he brought home several of these melons in a perfect state of preservation, and that others were consecutively cultivated from their seeds, in New York, until they run out by cross-fecundation.

*Wine-making.*—Mr. Hall stated that he had had some experience both in raising grapes and in making wine; and that he had personally examined the vineyards in Europe, and the caves or cellars there, which are indispensable for the manufacture and preservation of good wines. He said that wine is made with as much facility, nearly, as cider. Before the "must," or expressed juice of the grape undergoes its first fermentation, it may vary in its specific gravity according to the kind of wine into which it is to be made. That of the best white wines of France and Spain has a specific gravity of 1.083, which is determined by an instrument known under the names of *hydrometer*, *aërometre*, *saccharometer*, &c. If the specific gravity of the must is below this point, it is increased by the addition of sugar. By this means, good wine can be made from the juice of unripe grapes. While the must is undergoing its first fermentation in the vats, a scum or froth rises to the surface, in a similar manner as the pomace and other impurities do in the "working" of cider, which is skimmed off. When it becomes clear it is put into casks, and kept in a cellar or cave of a temperature of about 60° F., where a second fermentation takes place, and where the wines are finally prepared and kept for use, or for exportation. In the manufacture of wine, he said, the addition of alcohol is unnecessary, and contrary to the prevailing opinion, it will keep and bear transportation as well without it as with it. While in Spain, he ascertained that most of the wines of domestic consumption, as well as those exported to the West Indies and other colonies, for the use of the Spaniards, were made without the addition of brandy; whereas, all the strong wines shipped to Britain and the United States, contained at least 25 per cent. When the makers of wine for export to England or to this country were asked by him, why they put brandy in it, the answer was—"You, English, have *hot mouths,* and we must gratify them."

*Wine from the Isabella Grape.*—Mr. Hall observed that he had made some excellent wine from the Isabella grape, in a perfect state of maturity. By adding to the must, or grape-juice, three-fourths of a pound of sugar to a gallon, he obtained a wine much resembling the quality of hock; by adding a pound to a gallon, a fair wine was produced; and with the addition of a pound and a half of sugar to a gallon, he obtained a fine sweet wine, which, when tasted by some gentlemen who were experienced in the qualities of wine, not knowing whence it came, was pronounced by them as a foreign article of a delicious flavor, resembling that of Muscat.

*Mortality among Horses.*—The Secretary called the attention of the Club to a distemper prevailing among horses in the neighborhood of this city. The disease was principally confined, at first, to Kings County, Long Island, but has since appeared at Flushing, Staten Island, and other places. This malady appears to reside in the head, and generally proves fatal in one or two days. In every instance, it is said, the horses had been turned out to pasture, and those which have been constantly kept in stables, have escaped the disorder. In several cases, the animals have been carefully opened, and every part, except the head, was found to be sound. The brain, on dissection, appeared like a mass of clotted blood. The disease, it would seem, is not contagious, because, in one instance, a horse died, where there were standing in a stable several other horses by his side, and none of them were at all affected. It is believed by many that the disorder has been produced by the effects of the sun, which, if true, it is hoped, as the weather becomes cooler, will soon disappear.

Mr. Hall stated that he had seen a similar epidemic in the horses of Spain, a kind of apoplexy, or "blind staggers." He said that it had been cured by winding blankets steeped in hot water around the head of the animal, and following it up by copious bleeding.

*Pauper Labor on Randall's Island.*—A deputation appointed by the American Institute a few weeks since, to visit the New York Alms House Department on Randall's Island, presented the following paper on that subject, which was read:—

The undersigned from the Farmers' Club on the invitation of Moses G. Leonard, Esq., Commissioner of the Alms House Department, having visited Randall's Island on the 5th inst., in company with his Honor the Mayor, several of the Aldermen, and other citizens, ask leave to Report

That Mr. Leonard's object was to present to the citizens some knowledge of the success which has thus far attended his endeavors to cultivate this farm by pauper labor. It affords us much pleasure to bear testimony to the excellence of his arrangements, and the great promise which is thus far afforded of signal success. Since the failure of an experiment attempted some years ago on the Long Island Farms, it has been deemed impracticable by many to cultivate the soil advantageously by pauper labor. But after witnessing the progress made under the direction of Mr. Leonard, we are far from adopting any such conclusion; on the contrary, we feel much encouraged to believe, that by steady perseverance in a well devised plan, the paupers of our city may be made to contribute largely to their own support, without exacting from them a greater amount of labor than will be found essential to their own comfort and well being. But it cannot be expected that any plan, however well devised, for the accomplishment of an object so desirable, can be expected to prosper, if the supervision of its details is doomed to continual change from one to another. Once under the supervision of those having the requisite qualifications, it should, upon no slight cause, be changed.

Randall's Island is about nine miles distant from the City Hall, lying between Harlem and Long Island. It forms on one side a part of the east bank of the Harlem River, and on the other side a part of the west bank of Long Island Sound, with narrow channels on the north and south, difficult of navigation. It contains 138 acres, of marsh and upland. Some of the best fields on the island, however, have been rendered unfit for immediate tillage by the erection and recent destruction of buildings by fire, intended for the accommodation of the poor of the city.

Mr. Leonard did not get possession of the Island until the middle of May last, at which time no preparation had been made for producing a crop. Nevertheless, he has secured from 80 to 100 tons of excellent hay; there are two fields of Indian corn, containing ~~at least~~ five acres, equal in appearance to any we have seen, averaging full twelve feet in height; one field of six acres, bearing potatoes; one of buckwheat, four acres; and one of turnips 1½ acres, all in excellent order, and of fair promise; also 2,000 heads of cabbage. From the 15th of June to the present time 40 cows have been milked, furnishing daily 300 quarts of milk to the nursery on Long Island, where there are 700 pauper children, reserving as much as is required for the farm. There have been two very comfortable buildings erected on Randall's Island, for the accommodation of the laborers, and there is a stable now in process of erection, intended for the cows in winter. All this is entirely the result of pauper labor.

We sincerely hope that Mr. Leonard may be permitted to go on and carry out the plans he has intimated to us, of furnishing labor to all the inmates of the establishment capable of performing such, stimulating them by a system of rewards which will call for no additional charge upon the city, and, if successful, will materially lessen the cost of maintaining its poor.

The Island is the property of the city, having been purchased from the Messrs. Randall in 1832 for $60,000. There could not be a better place for the experiment than is here afforded. The milk alone which has been already furnished, estimating it at 4 cts. per quart, provided the quantity should be continued, will amount to more than 7 per cent. per annum, on the cost of the Island, and, so far, there have been but 70 paupers employed. There are in the establishment nearly 500, that may be employed in agricultural labor, besides a large proportion of the children, whose labor, at particular seasons of the year, may be made extremely valuable.

It is not extravagant to estimate that the 70 paupers employed on Randall's Island have, thus far, maintained themselves, and produced a surplus which would be equal to over $4,000 per annum. If, then, the whole 500 could be engaged in agricultural labor with corresponding advantage, together with the occasional labor of the children, in addition to their own maintenance, they would produce to the city a revenue of $30,000 per annum.

Two of the Messrs. Randall having been present on the occasion of this visit, we have obtained from them some reminiscences worthy of record. The Island, formerly called Montezoue, was purchased by the family in 1784, from Col. Ogden, of New Jersey, for $6,000. It was then in a very neglected state, nearly destitute of trees, fences, &c. The excellent fruit which has been produced here, and is still retained to some extent, has resulted from the labor and enterprise of this family. Peaches were formerly one of the products in great abundance, and of the very best quality, but about 40 years ago the crop failed, and the trees gradually decayed, since which, very few have been produced on the Island. This was the case also in the adjacent country, and was generally attributed to a change in the climate, as no other assignable reason seemed to present itself, until the disease called the "yellows" and the peach borer were found to be the cause.

The Vergaloo pear was produced in great abundance and perfection until about twenty years ago, when the crop failed. The trees have since yielded no fruit worth gathering. They put forth their blossoms and foliage in the spring, and appear to be vigorous, but the fruit, after attaining about half its usual size, turns to a dark color, cracks, and dries up; some specimens of it are herewith presented to the Club. These trees may be restored, we think, by proper culture.

Cherries have been very abundant upon the Island—there are several varieties, and the quality excellent—the Blackhearts are most numerous.

The celebrated Dyckman cherry, or Black Tartarian, was first grown in America on this Island, about 40 years ago.

The Newtown pippin flourished on the Island, one thousand barrels of which have been obtained in a season. In all there are about 20 acres of fruit trees.

In 1820 the receipts for produce sold off the Island amounted to $6,000, independent of the supply of the family. The produce sold consisted entirely of fruit, vegetables, and hay. The hay alone, after retaining enough to winter 26 head of cattle, sold for $1,600. In 1839 Mr. R. sold 14,000 lbs. of cherries.

The elder brother, who was present (Mr. John Randall), resided on the Island over 50 years. He states that the family, with the exception of one year, 1824, enjoyed uninterrupted good health. During that year, they were afflicted with ordinary bilious fever, of which three members of the family died. Intermittent fever had not been known to the family during their residence on the Island.

ADONIRAM CHANDLER.
D'JAY BROWNE.
FRANKLIN KNIGHT.
HENRY A. FIELD.

*New York, Sept.* 15, 1846.

Mr. Charles Henry Hall pointed out the importance of bringing up pauper children to habits of industry; and of all pursuits, he said that of agriculture had the most salutary influence in the formation of their characters, and consequently prepared them for usefulness when they came to be men. He said there is no reason why they should not be brought up as well as farmers' sons—to be taught to know that they are accountable beings, and that it is their duty to do something for themselves, and be made to feel that they are not entirely dependent upon the bounty of the city for support; but live in a land in which they are capable of becoming useful citizens, and can enjoy the sweets of freedom, independence, and happiness. He said that it has long been his belief, that, under judicious management, our alms-house can be made to support itself by pauper labor. He cited several instances where this has been done in other cities, and as a case in point, he referred to that of Salem, in Massachusetts. He hoped that this subject would not be suffered to pass the Club without further notice, and expressed a wish that the gentlemen who had so ably and correctly reported upon the agricultural capabilities of Randall's Island, be invited to continue their inquiries.

Similar sentiments were also expressed by Drs. Field and Underhill, and by Messrs. Hyde, Van Wyck, and others, whereupon it was moved by Mr. Wakeman, and sanctioned by the Club, that a vote of thanks be tendered to the gentlemen of the Report, and that they constitute a committee for the further investigation of the subject.

AGRICULTURAL MEETINGS.—The American Agricultural Association will hold a regular meeting on Wednesday, the 7th inst., at 7 o'clock, P.M., at the Historical Society's Rooms, N. Y. University.

The N. Y. Farmers' Club will hold their next meeting conjointly with the Farmers , Gardeners , and Silk Culturists' Convention, on the 12th inst., at 11 o'clock, A.M., at Mechanics' Hall, Broadway.

## CULTURE OF THE VINE IN AUSTRALIA.

THROUGH the kindness of A. H. Palmer, Esq., Director of the American and Foreign Agency, at New York, who holds an extensive correspondence in all the countries of the East, we have received the "Journal of the Agricultural and Horticultural Society of Perth, Western Australia," from which we make the following extracts from the "Report of the Vineyard Society," formed for the purpose of establishing in that colony a Model Vineyard:—

The season of preparation for the vineyard being already advanced, it is proposed in the present letter to treat only on such operations as should occupy the interval between the present time and the first week in August (*a*), when, at the latest, the planting out of vine cuttings should be completed. Those operations will therefore comprise—1st, the selection of land for the new vineyard, as regards soil, situation, aspect, and shelter; 2d, the preparation of the land—viz., manuring, trenching, and fencing; 3d, the best varieties of the vine from which to select cuttings; 4th, the treatment of old vines and vineyards.

*On Soils.*—The soils best adapted for vineyards are classed in the order of their relative superiority. 1st, light calcareous soils; 2d, light soils on granite; 3d, light soils on other rocks or gravel; 4th, light sandy loam; 5th, sand; 6th, loam, or any soil except clay.

It is to be observed, that almost all wines of the *highest reputation* in Europe are produced in calcareous soils, rather deficient in fertility, and generally on elevated hilly ground. The produce, of course, is small. The ordinary wines are the growth of richer soils, making up in quantity for deficiencies in quality, and the latter are frequently the most profitable. Under similar treatment, therefore, the comparative quantity produced in different situations will afford a tolerably accurate test of the various qualities of the wines.

The best situation to select for superior wine in this country will be a hill side, sheltered from the harsh southerly winds, with a calcareous or granite soil, and having an easterly aspect, which will protect it from the rays of an evening sun. For ordinary wine, the alluvial flats or other rich lands will be preferred, and a medium quality of land will be chosen for a somewhat better wine.

Raisins, Zante currants, and sweet wines, should be cultivated on rich lands.

The first market to be supplied will be at home, for internal consumption; the settler will therefore select a situation for his vineyard near his homestead, and within reach of protection, combining as many advantages as he can. The banks of red and brown sandy loam descending into the alluvial lands on the Swan, and generally known as *native-hole lands*, have already been proved to answer well for this purpose, by a gentleman who has taken the lead in the cultivation of the vine, and from having been constantly moved by the natives in search of roots, would require little preparation. An upland stubble, or any light soil of a tolerably fertile character, and *well drained*, will answer for this purpose, provided it be sufficiently sheltered.

*Preparation of the Land.*—Trenching from two to three feet deep, according to the soil, is quite essential, and the land should be previously well manured and plowed in. In trenching, care must be taken to place the top soil, which has been manured, at the bottom of the trench, and the virgin soil, which has been taken from the bottom, is to be laid on the top. The subsoil thus placed on the surface prevents the roots from pushing upwards, which would injure the plant; and the manured soil at the bottom of the trench nourishes and draws the roots downwards, thereby protecting them from the scorching heats of summer. Trenching should take place in dry weather, and the clods must be well pulverized, as hollow spaces in the soil are prejudicial to the plants. The land should now be walked upon as little as possible, especially in wet weather.

*On Manures.*—A variety of opinion exists as to the sort of manure best adapted for the vineyard, but the prevailing belief is, that the manure of cattle is best suited for light, sandy, or gravelly soils, which are liable to aridity; and that the manure of the horse, sheep, or goat, is best calculated for strong and damp soils in level vineyards. The manure of pigs is supposed to be prejudicial to the flavor of the wine, and too much manure is also injurious to its quality; but this observation does not apply to new vineyards, where the cuttings and young plants must require much nutriment in the early stages of their growth.

It is hardly necessary to observe that a vineyard should be effectually fenced against all descriptions of live stock, but this important work may in the present instance be deferred until the vineyard is planted, the operations of which will probably fully occupy the remaining part of the present season.

Having fixed on a vineyard site, and determined on the sort of produce to be cultivated, the suitable cuttings should be obtained, cut into lengths of three buds, tied in bundles, and laid in a cool dry place; watered over, or plunged into water occasionally, and, the day before planting, the lower ends re-cut, so as to renew the wound, and the bundles set upright in about four inches depth of water; the object being to start the vegetation of the lower before the upper part. They are then to be planted, and, assisted by a little manure, with the uppermost bud a little above the surface. Should this bud refuse to vegetate, lay bare the second. Cuttings should be from vines above 4 years old, if possible; the shoots of young vines being too porous to form good stems. Of course, the thickest and nearest to the old stems are preferred.

The distance of the plants is a subject on which we are hardly able as yet to afford much information; the European vineyards differing in this respect to the enormous extent of from 10 inches to 7 feet. Two points are to be attended to—the shelter of the ground from the sun, and the space requisite for the proper supply of wood, and for the convenience of tillage and vintage. Without entering at length on this very important but imperfectly known subject, the Committee are inclined to recommend 4 feet distance in the rows, and 5 feet between the rows; from a combined consideration of the great heat of our vintage season, and the luxuriant growth of our vines. This subject, as well as the pruning, training, &c., will be more fully treated hereafter. In trellises, vines have hitherto been very much crowded. It may in general be said that in this country the trellis should never be less than 18 feet wide, and the plants 20 feet asunder; the old wood an upright stem, the bearing wood always horizontal.

The chief object in pruning a vine is to increase its fertility, which is effected by cutting out the superabundant wood, and adjusting the number and length of the branches which are to remain, to the age and strength of the plant, for the ripening of the fruit, and for the production of wood for the ensuing year. The great object to be gained is to get rid of as much old wood as possible, as it never bears fruit after the first year, yet has still to be supplied with sap which ought to be applied to the production of fruit, and shoots for the following year. Now, on the old system of spur pruning, it is quite evident that in a few years there is a great accumulation of old wood which cannot be got rid of, which is not only unsightly to the eye, but is a positive injury to the tree, and a great loss of fruit; there are also at the time of pruning a much greater number of wounds to be healed, which likewise take away from the strength of the plant. To obviate all this, the Committee would recommend the system of long pruning, for which they will now proceed to give some directions as being not only more simple, but more efficacious in every respect.

*First Year.*—As soon as the vines are planted cut them down to within three eyes of the ground. In the spring, when the buds begin to break, take the two strongest shoots and tie them carefully to sticks as fast as they grow, never allowing them to be blown about by the wind. As soon as you have secured two shoots by tying them, rub off the other, the only object in leaving three shoots being to guard against the accident of one being broken; keep them thus growing all the summer, pinching off all the laterals, but leaving one eye to each of them, which is left as a vent for any superabundance of sap; for if the tree is very strong and the laterals are taken off without leaving an eye, it will often flow into the fruit buds, and cause them to burst, and thus spoil them for fruit the ensuing year; this is meant as a general rule, let the age of a plant be what it may.

*Second Year.*—At the proper season for pruning cut both shoots down to about a foot, and spread them out in a horizontal direction, one to each side, taking care not to break them; and secure them in that position. In the spring, when you have secured two shoots, one from each branch as near the extremity as possible, rub off all others, so as to throw all the strength of the plant into them.

*Third Year.*—The plants now, if they have been properly attended to, will have made strong shoots, and be able to bear fruit; in that case, cut one shoot down to one eye, leaving the other from two to three feet long. Now, if this were left quite perpendicular, it is certain that only two or three eyes at most would break, and those at the extreme end. To obviate this, the shoot must be bent and tied in the shape of the letter S; the bends in which, checking the flow of sap, cause the buds to break regularly all the way up. As soon as the shoots are long enough pinch off the tops, leaving four eyes above the fruit, so as to throw all the sap into it. The other shoot that was cut down to one eye must be suffered to grow as long as possible, as that is to be the fruit-bearing shoot the next year.

*Fourth Year.*—The branch which has borne fruit must now in its turn be cut down to one eye, and the other, which was allowed to grow its full length all the summer, must take its place, being trained in the same way, only that, as the tree is now stronger, a greater length of wood may be left for fruit, which will increase every year as the tree gets older, bearing in mind the principle, that the two shoots must bear on alternate years, one shoot bearing fruit and the other preparing for the next year. This course may be continued until the tree is strong enough to have two more shoots laid in, one on each side; when having four shoots the proper method to cut them would be to let Nos. 1 and 3 bear one year, and the next year Nos. 2 and 4, by which means your fruiting shoots would never interfere with each other.

As a general rule for the length of shoots to be left, the following table is recommended, taking the girth of the stem six inches from the ground. As the length increases, care must be taken that the number of bends also increase, giving a good bold bend every time; it will not injure them even if the bark cracks a little in the operation:—

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 | inches | in girth, | 1 | shoot | 2 | feet long. |
| 3½ | " | " | 1 | " | 3 | " |
| 4 | " | " | 1 | " | 4 | " |
| 5 | " | " | 1 | " | 5 | " |
| 6 | " | " | 1 | " | 6 | " |
| 7 | " | " | 2 | " | 5 | " |
| 8 | " | " | 2 | " | 6 | " |
| 9 | " | " | 2 | " | 7 | " |
| 10 | " | " | 2 | " | 8 | " |
| 11 | " | " | 2 | " | 10 | " |

Some few free-growing sorts may probably bear a little more, but for the general collection the above will be found quite sufficient.

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(*a*) The month of August in Australia corresponds to February in the United States.

## SIXTH ANNUAL SHOW
### OF THE
### NEW YORK STATE AGRICULTURAL SOCIETY.

This was held at Auburn, on the 15th, 16th, and 17th of September. The concourse of people attending it was as great as at any of the preceding exhibitions; full 40,000 having visited the grounds during the three days of the show. A copious shower fell on the night of the 14th, which completely laid the dust, and nothing could have been more favorable than the weather which followed.

*Show Ground.*—This comprised about thirteen acres, and was laid out on Capitol Hill, in the precincts of the village. The ground was well chosen, being covered with a firm turf, of a slightly rolling surface, and commanding a beautiful view of the adjacent country. It was enclosed with a high, tight board fence, inside of which, at a suitable distance, was a railing put up all around, except on the front side, to form the carriage drive. The sheep and pig pens were arranged along the south and west sides of this railing within, while the cattle were tied up on the north side. The intermediate western segment was occupied by the horses. Near the centre of the ground was Floral Hall, devoted to flowers and fruits; on either hand in the rear, were the Domestic Hall, for fabrics of all kinds; Farmers' Hall, for butter, cheese, lard, &c.; and Mechanics' Hall, for farm implements of the smaller and higher finished kinds. Then there was the great tent pitched on the south side, at least 40 feet in diameter, under which was delivered the annual address, and the reports of Committees read. At the north side were various small tents for the use of Committees, &c. The Business Office stood outside of the enclosure, at the north-east entrance; the Ticket Office a little distance south, immediately fronting, and about 100 yards in advance of the great entrance gate to the show grounds. In addition to these, two halls on the north side within the enclosure were allowed to be occupied for refreshments for visitors. Plenty of hay and water were provided for the stock on the show grounds. Floral Hall was upwards of 120 feet long, and in form of a Greek Temple. The front and pillars were densely covered with evergreens, giving it a most enchanting rural appearance. The other buildings were of corresponding size, and very commodious. Taking it all in all, the arrangements were more complete than at any former exhibition of the Society; and the Committee superintending them deserve high praise for their indefatigable endeavors to make everything so perfect on the occasion.

*Trial of Plows.*—This took place on Tuesday the 15th. There were few plows present, and these not of the best kind. However, we consider this of no importance, so long as the trials are conducted as the Society has hitherto pleased to order them. They *prove nothing at all*, and are a mere waste of time. The excellent Committee on the occasion did the best they could to make the most of the affair. But pray what results can they arrive at, so long as *one quality* of ground, and that a stiff clayey green sward, is to be turned over? Does the plow best fitted for this, answer best in a deep friable loam? or on a light sandy soil? or in a wet meadow? or among rocks and stumps? or on a stubble field? We should be very glad to have these questions answered, if they can be satisfactorily and in accordance with the rational principles of mechanics.

Wednesday and Thursday were the great show days, and early on the morning of the first, the people, stock, &c., began to assemble, and soon filled the area of the show-ground.

*Horses.*—This was, as we expected, the best exhibition of horses by far that has ever been made. There were present the beautiful thorough-bred, the superb roadster, the poney Morgan, and the immense cart horse, together with mares, foals, and match carriage and single horses. Thursday afternoon all these were drawn up in two lines fronting each other, with 20 or 30 feet of open space between them. The stallions, mares, and foals, occupied one line, and the match and single horses, in harness and under the saddle, the other line. They stretched quite across the show grounds and made a most imposing display. It might be considered invidious in us to distinguish upon such an occasion, but we must confess we were highly pleased with Busirus, belonging to Dr. Irvine of Pennsylvania. He was bred by his father, the late General Irvin of Philadelphia, and was got by Eclipse, out of one of the late John Randolph's strongest and best bred mares. Busirus stands 16½ hands high, and weighs 1300 lbs. His form is good and his action very fine. He strikes us as an invaluable horse for roadstock.

*Cattle.*—The exhibition of Durhams and Herefords was rather meagre, though better in the former class than last year. Among them was Mr. Vail's magnificent cow, Lady Barrington, recently imported. She took the first premium. We greatly admired the fine, compact, and almost perfect proportions of Col. Sherwood's Lily, and thought her highly deserving, though she got no premium. However, to make amends for this, his excellent bull, Symmetry, was awarded the first prize. Col. S. made much the largest show of Durhams of any one on the ground. The Devons were fine, and a good number of them. They were principally from the stock of Messrs. Beck, Garbut, Washburn, and Allen. Mr. W. had a cow on the ground which has made her 14 lbs. of butter per week. This, considering her size, is most extraordinary. The Devons are much better bred for milking qualities than formerly, and are really a most profitable kind of stock, especially on short pastures. We noticed only one Ayrshire, and very new native cows. The show of fat cattle in pairs was most superb. Mr. James S. Wadsworth, of Geneseo, had sixteen yoke, and three spayed Durham heifers. Five of his oxen were thorough bred Durhams, and two pure Devons. One yoke, only four years old, weighed 4,240 lbs. Col. J. M. Sherwood exhibited ten very superior yoke of cattle. Mr. Elon Sheldon, of Sennett, and his neighbors, eleven yoke, all highly to be commended. The single fat oxen were large and fine.

*Sheep.*—A larger number of Saxons and Merinos were present than ever before shown—some of which were very fine, and others ordinary enough. Representatives from several flocks which we expected to see here, from some cause or other were not present. The Long-wools and Southdowns were few in number, but of a good quality.

*Swine.*—Very few of these shown. The best were Berkshires and Leicesters—a fine white hog.

*Poultry.*—Here the display was rather meagre, except in Dorkings, of which Mr. Allen, of Black Rock, made a goodly exhibition.

*Farm Implements.*—These were not so numerous, nor of so great a variety as last year; nor did we see anything particularly new or worthy of record, except a flax-puller. It costs $100, and pulls from three to five acres per day. It is said to work well. We also noticed a new stone-drill, which the inventor declared would easily drill five feet per hour.

*Dairy Products.*—We regret to say, that any one good farmer in Herkimer or Erie, could have made a better exhibition in his own individual dairy, than all present. We were greatly disappointed at the meagre display, for there surely must be a large amount of butter and cheese made in Auburn and its vicinity. But whether this is the case or not, these products should have been brought in from a distance. Several gentlemen were present, particularly from Canada, with the intention of purchasing largely, which of course they could not do from so small a stock before them. We hope this matter will be remedied hereafter.

*Vegetables, Fruits, and Flowers.*—These were confined entirely to the products of Western New York, and were highly respectable. Mr. N. S Smith of Buffalo, showed seven kinds of superior seedling potatoes. Several nurserymen exhibited various new kinds of seedling pears and apples, some of which we thought quite superior. The Buffalo Horticultural Society was well represented there in fruits and flowers. Its banner, got up by Mr. W. R. Coppock, was very tastefully designed. Mr. Hadfield, from Sheldon, exhibited very large and peculiarly well sorted black wild cherries. We don't know why this, and other native fruits may not be greatly improved by cultivation. Mr. Henry H. Coit, of Cleveland, Ohio, made a superb display of fruits, particularly peaches and apples.

*Domestic Fabrics.*—These were not so various as last year, still we found much to admire in the way of flannels, hose, bed and table spreads, and all sorts of fancy work. Among the principal contributors was Miss Voorhees, famous for a great variety of ingenious fabrics.

*A Farmer's Cart.*—Among other objects which attracted our attention on the ground, was a cart tastefully decorated with a tent-like covering of evergreens—making it a delightful, portable, shady arbor. This was designed, we believe, by Mrs. Sherwood; at any rate, her husband's big team of ten superb yoke of oxen were attached to it.

*The Plowing Match.*—This we did not see, but understood it was conducted in the usual way, and respectably attended.

*The Address.*—This was delivered under the great tent, on Thursday, at 3 P. M., by Samuel Stevens, Esq., of Albany, and was replete with just and noble sentiments, expressed in a happy manner. A large audience was present, and expressed themselves highly pleased with the effort. After the Address the Chairmen of the various Committees made their reports in succession, and the premiums were awarded and paid to the amount of about $3,000.

*Amount of Money Received.*—The receipts for membership and tickets sold at Auburn during the Show, were about $4,300.

The Show passed off delightfully, and seemed to afford great general satisfaction. There were numerous things got up for the edification and amusement of the public. On Wednesday night there was a large meeting at the Court-House for the discussion of agricultural subjects. On Thursday night a ball at Floral Hall, which was really one of the most select and *recherché* affairs we have seen for a long time. The walls of the Hall were tastefully festooned with evergreens and flowers, and filled with charming women and agreeable men, from various States of the Union, who seemed highly pleased with each other, and the scene around them. Then there was the circus, the museum, the razor strop man, with "one more of the same sort left," mountebanks, and other grotesque performances for the million.

*The List of Premiums* we shall give in our next, it having come too late for insertion in this number.

## European Agriculture.

Reviewer of the Agriculturist, in his article page 223, seems disposed to be very severe upon me. Every man has certainly a perfect right to his opinion and private judgment, and if the mode in which he chooses to express himself appears best to him, I shall certainly not quarrel with his taste. Two things in respect to my work, however, it seems but fair to consider. First, the miscellaneous character of my subscribers; hence the great mistake I made in publishing as I went along in numbers, instead of waiting until the Tour was completed, which would have given me the opportunity of executing it much more maturely, and perhaps better. I should have done it, I had almost said, in half the time; but the necessity of sending it over in numbers, and in many cases before I had seen all I wished to see, has been an occasion of great delay and vexation. I think, however, my subscribers will not complain of the execution of the work so far as its appearance and typography are concerned; and all I can say in respect to its subject matter, I have done as well as I know how, and we know all that we can have of a cat. I only hope it may be the foundation for somebody else to do much better, and no one will rejoice more than I shall in everything which contributes to advance the agricultural improvement of my own country, and her substantial welfare and glory.

*London, Aug. 3d,* 1846. Henry Coleman.

## HORTICULTURAL NOTES.—No. 2.

*Culture of the Grape Vine.*—The first thing required in the *preparation of the ground* for grapes, is to ensure perfect drainage. Animal manures, a deep soil, and a sufficient extent of border, containing from 100 to 1,000 square feet, to each vine, according to the mode in which it is to be pruned, are essential to its perfection.

During the first two seasons, the vine should be trained as much as possible perpendicularly, to promote its growth. It should receive no pruning until the year in which it is designed to produce fruit. Pruning has no object before this period, and it tends to retard the growth of the roots.

Spur-pruning is most commonly *practised,* the short pruning more commonly *recommended;* neither is to be exclusively preferred; each being best in its place. In small gardens, especially in towns, where space for numerous vines is wanting, although there is ample room for training on a trellis, or side of a house, a single vine may be made to yield on the spur-pruning system, much more fruit than could be obtained by shortening it back, and depending upon new wood entirely. On the other hand, in vineyards, the shortening system saves much of the labor of training the vines in the spring, and of the summer pruning, and it distributes them more equally over the ground. But in these two systems, neither the quality nor the quantity of fruit is essentially different.

*Disbudding and removing Fruit.*—I am not aware that precise rules have been laid down as to the extent to which these operations should be carried. In the spur system, if more than one eye is left, and no fruit is removed, the branches will be imperfect. I have removed all but one eye, and all but one bunch of fruit. The bunches under this treatment were all perfect, but not larger nor better than where two bunches had been left, and the vines soon began to make a new crop of fruit. The best rule I have been able to form, is to have only one eye, except on a few very vigorous stems, and to have two bunches on every stem, except a few of the weakest. If a second crop appears, I esteem it an evidence of too much pruning—of course it should be taken off. I am not able to say whether it would not be better to leave two eyes and one bunch from each, instead of growing two bunches on one stem.

The summer pruning is a matter of great importance. The theory on which I act is this. A certain amount of foliage is necessary to the elaboration of the sap by which the fruit is perfected. Each bunch is dependent upon the whole foliage of its vine, especially upon the leaves of its own branch, and most of all upon the opposite leaf; and the action of the sun upon the leaves is necessary to the perfect elaboration of the sap. I conclude, therefore, that when we remove leaves remote from the fruit, and thereby admit more sun to those on which the perfection of the fruit more immediately depends, we are doing good. Again, in the later part of the season, when the growth of the vine has become retarded, the removal of the extreme branches is not followed by the formation of new leaves, which do not attain their growth in time to benefit the fruit. The old leaves receive then all the sap—thus again we do good. On the other hand, if the shortening is made too soon, the sap goes to form new leaves, and is not elaborated in time to improve the fruit. Again, if the vine is not shortened at all, the sap is divided, part going to elaborate in the old leaves, and part to increase the growth of the young leaves. The last is lost to the crop. The most vigorous shoots are those which are trained upwards. The largest bunches are seen on vigorous shoots which hang down. The choicest bunches on my vines are on the largest young wood, made to hang down after it had got growth. If a vine could be made to grow upwards till about the 1st of August, and then to hang down with its leading shoots, it would be placed, I apprehend, in the very best condition for perfecting its fruit. On a small number of vines, I apprehend the object would be attained without much trouble. A large upright limb of a pear tree, in my grounds. was broken by the weight of its well-grown fruit. The fruit proved the best on the tree. When a branch hangs down, the flow of the sap prevents its return to the roots, and directs it from the leaves and wood to the fruit. The practice of ringing or cutting the bark in a circle around the main stem of the vine, is common in France. I have so treated the Isabella, with advantage to the growing crop, but as I thought to the injury of that of the next year.

An opinion is held by some that the action of the sun on the fruit is useful; on the contrary, the finest bunches will be found in the shade. My gardener treated one of my Isabella vines as he had been accustomed to in a former place, by shortening the bearing branches about the 15th of

July, to two eyes from the fruit. The branches got the start of those in the other vines, but they did not maintain their superiority more than three weeks, and after the middle of August, were decidedly inferior to the others, which were not stopped so short, or at all. The hanging down plan I would prefer to all others, but that it is not very practicable on a large scale, or always convenient on a small one. The laterals opposite the fruit, in contact with the fruit leaf, should not be touched, and neither stopping nor taking off any laterals should be practised until the growth or the season is on the wane.

*Manures.*—I have satisfied myself that stable manure used as a top-dressing in summer, is a cause of mildew, and in a less degree also in the fall, if liberally applied. Whether ashes or animal manures produce a like effect, I am not certain, but I shall abstain altogether in future from manuring in summer. What other causes of mildew there may be, I know not, but think there can be little doubt that want of air, from superabundance of foliage, is one, or perhaps too much foliage, and short stopping, may induce it by the same cause, *i. e.*, preventing a due supply of elaborated sap, the leaves in one case being cut off, in the other, the proximate leaves being excluded from the action of the sun.

I wish some of your correspondents would take up the subject of insects on out-door vines. The removal of the proximate laterals leaves the bunch without resource, if the proximate leaf is attacked (and it seems to be that which most suffers), and this is an additional reason for respecting it.

AN AMATEUR GARDENER.

## GARDENING.—No. 8.

THE soil for a kitchen garden, it is obvious, is of the greatest importance, being, however, a subordinate consideration to situation, and may be changed by art, or improved as occasion may require; but not so with the situation. "The best soil for a garden is a sandy loam, not less than two feet deep, and good earth, neither of a binding nature in summer, nor retentive of rain in winter; but of such a texture, that it can be worked without difficulty, in any season of the year. If it can be done, a garden should be made on land the bottom of which is not of a springy nature." (*McPhail.*)

"In selecting ground for a garden, the plants growing naturally on the surface should be noted, as from these a pretty correct opinion may be formed of the qualities of the soil. In every garden two varieties of soil are wanted, a strong and a light one, in other words, a clayey loam, and a sandy loam; different plants require these respective kinds. For the general soil, a loam of middling quality, but partaking rather of the sandy than the clayey, is accounted best." (*Neill in Edin. Ency., Art. Hort.*)

"The soil of a garden should be two or three feet, but if deeper the better, of a mellow, pliable nature, and of a moderately dry quality; and if the ground should have an uneven surface, by no means attempt to level it, for by that unevenness, and any little difference there may be in the quality, you will have a greater variety of soil adapted to the different crops. The best soil is a rich mellow loam, the worst, a stiff heavy clay." (*Forsyth.*)

"In the same garden there never should be wanting different soils; and where nature has been different, recourse must be had to art; inasmuch as the variety of fruits and vegetables to be cultivated requires different soils to produce them in perfection. It would be absurd, however, to imagine, that for every particular vegetable there is to be a particular soil prepared." (*Loudon.*)

It is found that a light sandy loam is the best soil for a kitchen garden. This may be formed where the predominant soil is either clay, peat, or sand. A free marl is likewise well calculated for garden culture.

As respects the exposure of a garden, authors differ; some preferring an easterly exposure, as Abercrombie and others, and some a southerly exposure, as Nicol, Switzer, and Marshall. If, however, a situation combining exposure to two or three points can be obtained, we should prefer it, as in many cases a northern aspect is desirable, as it is much cooler for some summer productions, and especially for late successive crops.

The extent of the kitchen garden must be regulated by the requirements therefrom. An acre, with wall trees, hot-beds, &c., will furnish employment for one man. It is better to have too much than too little space, as a large garden attached to a small house is no deformity.

In regard to form, almost all the authors above quoted, agree in recommending a square or oblong, but Abercrombie proposes a long octagon, by which, he says, a greater portion of the wall in the slips behind will be on an equality with the garden, as to aspect. Irregular figures are admissible, and by some are preferred even to regular geometrical ones. The area enclosed by the walls of a garden, is usually formed into compartments, commonly called quarters, borders, slips, and walks. The magnitude and number, both of compartments and borders, as well as of the walks, depend on the size of the garden, and on the taste of the designer.

"In laying out the compartments, you must be guided, in a great measure, by the form and size of the garden; but do not lay them out too small, as, in that case, a great part of the ground will be taken up with walks and borders. The best figure is a square, or oblong, when the garden is of that form; but, if not, they may be laid out in any other figure that is thought to be most convenient." (*Forsyth.*)

"The best gardens are laid out in beds four feet wide, with narrow alleys. So many alleys, no doubt, occupy a deal of room; but advantages of conveniency and neatness, in enabling the workmen to clean and gather the crops, without trampling the ground, seem to compensate for the sacrifice of space." (*Neill.*)

The best seasons for forming a garden are the spring and summer; but, at all events, at whatever time the operations are begun, they should be arranged so as to be finished early in autumn, to admit of planting fruit trees and laying edges, at that season, or very early in the ensuing spring.

The cultivation of a garden includes the performance of all those things that are requisite to a reasonable and prolific production. A kitchen garden, as well as one professedly ornamental, may and ought to be agreeable to walk in, as well as profitably cultivated. The soil must be first attended to. The ground should never lie long without stirring, for the soil of a garden should be kept in a free, sweet, and rich state, by proper digging. Free, that the roots of the plants may not be impeded in the quest of food; sweet, that the food may be wholesome; and rich, that there may be no defect of nutriment.

It is a common complaint amongst gardeners, that their grounds will not produce certain kinds of vegetables, where formerly they were raised in abundance; not that the ground is poor or hungry, but that the surface, to use familiar language, has become tired of these crops, in the same way as a field sown with the same sort of grain for a number of years in succession, ceases to produce it in perfection. To remedy this it is proposed to proceed in the following manner:—"Let the soil be from twenty-five to thirty inches deep. Take three crops (*i. e.*, use it three years) off the surface, digging it only eight or ten inches deep, afterwards trench it the whole depth of the soil, say thirty inches, by which the bottom and top are reversed, and the middle remains in the middle. Take three crops off this surface, and then trench again twenty inches deep, by which the top becomes the middle, and the middle the top. Take also three crops off this surface, and then trench thirty inches, or the whole depth of your soil, whereby that which was last the middle, and now top, becomes the bottom; and that which is now the bottom, and was the surface at first, now becomes surface again, after having rested six years. Proceed in this manner alternately; the one time trenching twenty inches deep, and the other thirty; by which means the surface will always be changed, and will rest six years, and produce three." Here, then, we have a new soil every third year, and much less manure will be required, than when the soil is shallow and cropped every year. It is not intended that the whole garden should be trenched over the same season, say only one-third or one-half, as may be convenient.

Where vacant ground is trenched, and it is intended that the land shall lie fallow any time, it is advisable in digging trenches to turn up the earth roughly in ridges; forming parallel to each trench, a single ridge of the same width, in order that the soil may be the more effectually mellowed and renovated by the weather.

Cropping is found to be of essential service, and is founded on the acknowledged fact that each sort of plants draws a somewhat different nourishment from the soil; so that after a full crop of one thing, one of another kind may often be immediately planted or sown. "Nothing tends more to relieve the soil, than a judicious succession of crops; for plants of different constitutions not only strike to different depths, and in different directions, with their roots, but the terminal fibres or feeders of the roots appear to take up separate and peculiar constituents of the soil, and to be indebted for support to some property imparted by the earth in very different degrees. The duration of the vegetable, its short or protracted existence, is a great cause of diversity of effect as to the quantity of aliment drawn from the soil. Another mark of distinctness in constitution is the character of the root, as it may be fibrous and tender, or fibrous and woody,—or bulbous, or tuberous,—extended or compact; another, the form and magnitude of the plant, and the proportion of fibrous or ligneous substance in the stem and branches. A fourth index of a separate nature is the succulency or hardness of the leaves, and the quantity of pulpy or farinaceous matter in the parts of fructification,—as the leaves may be the edible part before the plant is matured; or the seed vessels, as in pulse, may hold the produce for the table; or the esculent part may consist of fruit, enclosing seeds. It is a rule, from which only extraordinary circumstances can warrant a departure, never to plant a new sort of perennial stool on the ground whence a plantation of the same, or a similar species, having worn itself out, has just before been removed." Crops which strike deep, and occupy the ground long, should be succeeded by plants which pierce but a little way under the surface, and soon come off, from the short duration of their life.

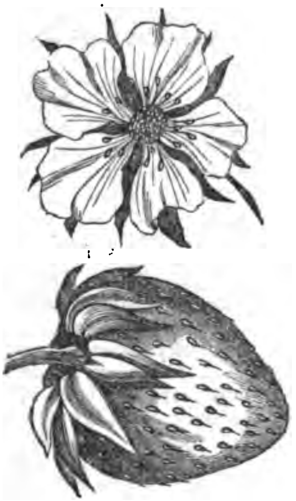
"The management of a garden consists in attention and application; the first should be of that wary and provident kind, as not only to do well in the present, but for the future; and the application should be of so diligent a nature, as 'never to defer that till to-morrow which may be done to-day.'" (*Marshall.*)

Procrastination is of serious consequence in gardening; and neglect of times and seasons is fruitful of disappointment. It will often happen, indeed, that a gardener cannot do what he would; but if he does not do what he can, he will be most justly blamed. Industry and steadiness are perhaps in no kind of life more necessary than in that of a gardener. Whole crops may be ruined by a day's neglect, and not only whole crops, but the whole produce of a year or more. Unless a man also is endowed with attention, and has well cultivated that faculty, he can never excel in anything. Without an ever-active attention, a gardener will not see what is out of order or unsightly in his garden, and of course will not correct it. Many persons are so deficient in this respect, that their knowledge is confined to the few objects with which their mode of procuring a living obliges them to be conversant. Something more than this is wanting in a gardener who would be master of his business—he should excel in point of general observation and knowledge. L. T. TALBOT.

**DESTRUCTION OF WEEDS IN PAVED YARDS AND COURTS.**—The growth of weeds between the stones of a pavement is often very injurious as well as unsightly. The following method of destroying them is adopted at the Mint at Paris and elsewhere, with good effect:—One hundred pounds of water, twenty pounds of quicklime, and two pounds of flour of sulphur, are to be boiled in an iron vessel. The liquor is to be allowed to settle, the clear part drawn off, and being more or less diluted, according to circumstances, is to be used for watering the alleys and pavements. The weeds will not re-appear for several years.

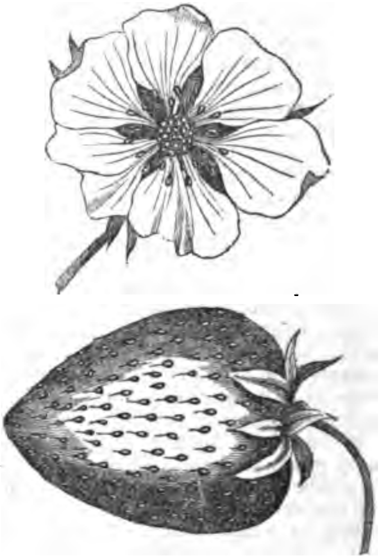
## SUPERIOR ENGLISH PINE STRAWBERRIES.

*Swainstone Seedling.*—A strong, fine growing plant, perfectly hardy, and better adapted to our climate than most of the English varieties. The blossoms are unusually large, and are perfect in both organs. The fruit, which is borne on very high trusses, is esteemed by all who have tasted it, to be of the very first quality, solid, juicy, and highly aromatic. I am not acquainted with any other strawberry that will compare with it in point of flavor. The berries are of a medium size, nearly uniform in shape, and never assume a cockscomb form. Mr. Downing describes the berries as averaging from three and a half to four inches in circumference. This strawberry may be considered a good bearer when under high cultivation; though my plants, which were grown in a poor soil, without much manure, bore very delicious fruit, but of less size than it would have been, had it grown under more favorable circumstances.

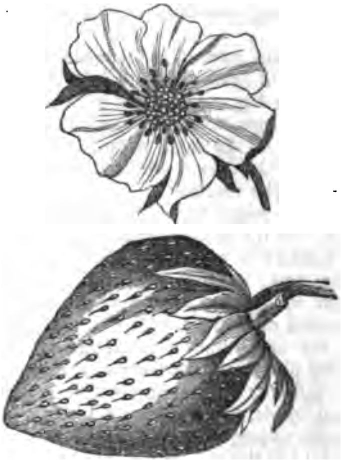


Swainstone Strawberry.—Fig. 71.

*British Queen.*—This magnificent strawberry, which was raised by Mr. Myatt, is now esteemed the best variety in England. Unfortunately, it is not a free grower, and is rather tender in this latitude, the old plants frequently dying off in winter. North of New York, I think Myatt's Eliza will be found to succeed better, being much more hardy, more free in its growth, and more productive, although it is smaller, but scarcely inferior in quality. The blossoms of this variety are large, beautiful, and perfect, in both organs. The receptacle is large and well formed, but is liable to injury from cold rains. About the time the plants were in blossom, the present season, there was much rainy weather, the consequence of which was, that a large portion of the flowers failed to produce fruit. This also happened to many other *staminate* varieties. The fruit, when well grown, is of the first magnitude, solid, juicy, and peculiarly rich in flavor. Considering its *size* and *quality*, it is certainly not surpassed by any other strawberry under cultivation, unless it be Turner's Pine. Of the latter variety, very little is yet known in this country; but in England, it is esteemed only for its large size. The difference in climate may essentially change its quality here.



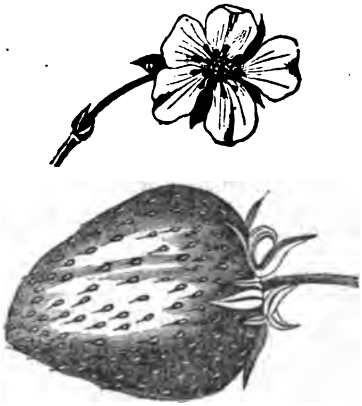
British Queen.—Fig. 72.



Princess Alice Maud.—Fig. 73.

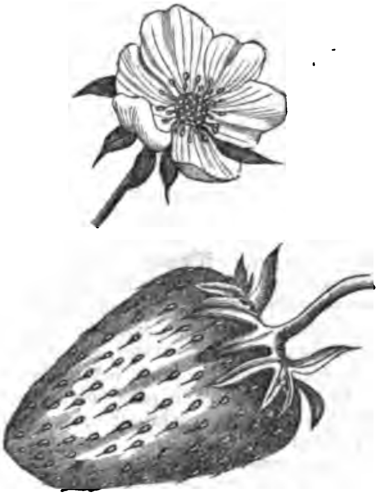
*Princess Alice Maud.*—This fine new variety was produced from Keen's Seedling, which it very closely resembles. Like its parent, it is a free grower, increasing rapidly by runners. It is one of the very earliest large-fruited kinds, being but a few days later than the Early Scarlet. On this account it must be considered one of the most valuable sorts, especially if it should prove sufficiently hardy, which there is reason to believe it will. For, some plants in my garden were unprotected last winter, which was a very severe one, without sustaining any injury, and bore very abundantly this summer. The blossoms are more perfect in both organs than usual, the receptacle which becomes the fruit, being large, and seldom failing to fructify. The fruit, which is quite large, has an irregular surface, often assuming a cockscomb form, is rich, and juicy, but not quite equal in flavor to Keen's Seedling. Mr. Longworth defies any horticulturist to obtain a full crop of fruit from a staminate plant bearing large berries. I think a fair average yield may be obtained from this variety.

*Deptford Pine.*—A new variety raised by Mr. Myatt. The plants are large, and very much resemble the Elton Pine. The fruit, also, much resembles that variety, being large, solid, juicy, and highly flavored when fully ripe, when it should only be eaten; otherwise it will be too acid. The leaves of the plant are liable to be injured by the sun, therefore it should be planted in a cool situation, screened a little from the full force of its rays. A longer time may be necessary to test this variety.



DEPTFORD PINE.—FIG. 74.

*Prince Albert.*—A fine growing, hardy variety, well adapted to our climate. It is a most profuse flowerer, a large plant sometimes containing from 100 to 150 blossoms, but many of them prove abortive. The fruit, which is very large and beautiful, is generally of a long conical form, though occasionally of a cockscomb shape, of an agreeable flavor, but not equal to that of the British Queen.



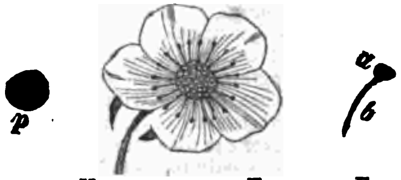
PRINCE ALBERT.—FIG. 75.

The plant here described is not the one usually sold under the name of "Prince Albert," which, as far as has come under my observation, is not very hardy, and somewhat resembles the British Queen, both in habit and in appearance.

In regard to the productiveness of the above-mentioned varieties, there is some diversity of opinion. They are generally considered as shy bearers. This, however, will depend very much upon a proper selection of soil, and good cultivation. In order to succeed well, the soil must be a retentive loam, inclining to clay, rather than to sand. This should be trenched eighteen inches deep, and well enriched with good stable manure. Few persons are aware that the roots of the strawberry penetrate the earth to the depth of three feet, if the soil will permit, in search of food and moisture. Then, again, the roots must not be permitted to crowd each other. The plants should be kept at the distance of eighteen inches apart, each way—some say two feet. The runners must be cut off as soon as they appear. Some who have been accustomed to see the Early Scarlet stand thick upon the ground and bear well too, may think the distance here recommended too great. G. W. HUNTSMAN.

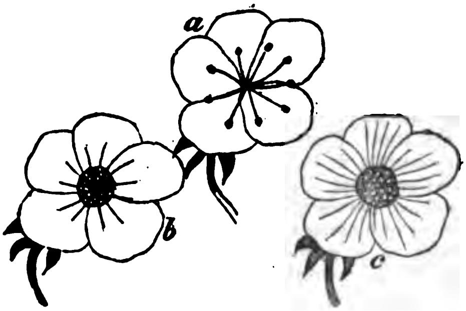
*Flushing, L. I., August 1st,* 1846.

## ILLUSTRATION OF THE SEXES IN THE STRAWBERRY.



COMPLETE HERMAPHRODITE FLOWER.—FIG. 76.

THE central parts of a complete hermaphrodite strawberry flower consist of greenish knobs or pistils, indicated by *p* in the above figure, which are absolutely necessary to produce a fruit or berry. These are fertilized by the pollen from the anthers, *a*, on the top of the filaments, *b*. This flower having both male and female organs, will produce fruit without the influence of a staminate or male flower.



MALE, FEMALE, AND DEFECTIVE FLOWERS—FIG. 77.

A male or staminate flower, *a*, with central organs, or pistils entirely wanting or defective, can never produce fruit, there being frequently vestiges of incomplete or withered pistils in the centre.

A pistillate or female flower will produce fruit if impregnated by the pollen of a neighboring staminate flower, *but not otherwise*, as the male organs are entirely *absent*, as in figure, *c*, or *defective*, as in *b*, where the filaments have no anthers on their extremities, and therefore have no pollen to impregnate the pistils.

Mr. Jackson's exhibition of strawberries before the Horticultural Society of Cincinnati, mentioned on the first page of the American Agriculturist for July, induces me to write to you upon the same subject.

When Mr. N. Longworth, a gentleman of accurate observation and sound judgment, directed the public attention to the *sexual* differences in strawberry plants, some years ago, for the benefit of those who would make productive plantations of that delightful fruit, he was sneered at by those superficial botanists whose knowledge of the vegetable kingdom was derived exclusively from books, and consisted of generalities ill applied, and not limited or enlarged by actual observation. The operations of nature, and the modifications of them, caused by climate, cultivation, and the amalgamation of species, were unknown to them. They had read that the genus *Fragaria* is an Icosandria of the Polygynia order, having a calyx and corolla surrounding its stamens and pistils, and therefore forming a perfect and complete flower, hermaphrodite of course. All such could perfect their fruit without foreign aid, as in their estimation Mr. Longworth was an *ignoramus*. But he had seen, and examined, and cultivated, and eaten, as fine strawberries as ever grew. He had seen in the cultivated varieties some flowers with stamens and pistils, others with stamens only, never bearing fruit, and which never can till a man bears a child; and others with pistils only found to bear fruit, but as incapable of it without the fertilizing influence of the pollen from a staminate flower, as any other female in her virgin state. I do not know whether Mr. Longworth cared one straw for the Theory of Vegetable Transformation which originated with Linnæus, but was almost entirely neglected till Goethe, the poet, naturalist, and philosopher, explained the Metamorphoses of Plants in the year 1790, in his " Versuch über die Metamorphose der Pflanzen." But Mr. Longworth saw with his own eyes the facts, and he is a practical man, who knows that

> " Facts are things that dinna lie,
> And canna be disputed."

By the way, the latter proposition of this distich is not true. Facts are every day disputed. Mr. Longworth's *de jure* and *de facto* facts have been disbelieved and disputed too, but only by those who have not observed. This spring I examined a number of blossoms of the strawberry plant, at the request of a gentleman in Frankfort, and verified Mr. Longworth's observations. I found all the three kinds of flowers in great abundance. Whether all the flowers in their wild uncultivated state are complete hermaphrodite flowers or not, I cannot say, but that in their cultivated state many of them cease to be so is certainly true; and those who heed not Mr. Longworth's advice in forming plantations, if they obtain fruit at all, will be indebted to chance for it, whereas, if they follow his advice, proper cultivation will insure good crops of fruit. The cultivator should select for planting the hermaphrodite and pistillate flowers, with only a few of the staminate flowers to fertilize those which are pistillate only, and these should be intermixed with the former. John Lewis.

*Llangollen, Ky , July* 13, 1846.

## DOMESTIC FISH-PONDS.—No. 5.

*Management, &c.*—With proper management, in many cases, the fish will scarcely require feeding, as the pond itself will furnish food. But if the fish seem unhealthy, or appear to want food, they may be fed with earth-worms, grasshoppers, steeped grain, peas, offals of poultry, boiled potatoes, Indian meal, crumbs of bread, &c. The food should be given morning and evening at a stated time, and always at the same part of the pond. A portion of the margin of the pond may be covered with aquatic plants, on which vast numbers of insects, snails, &c., will be produced, which will serve as a delicious morsel for the fish. In Europe, there are two weeds in particular, which are encouraged to grow, namely, the broad-leaved pond weed (*Potamogeton natans*), sometimes also called *tench weed*, and the water crow-foot (*Ranunculus aquatilis*); on both of these weeds carp and tench deposit their spawn. In rainy seasons, it is desirable to allow the ponds to fill to their utmost limits, as by this method food is brought from the adjacent grounds; and when the water is let off again, a luxuriant and tender grass is produced at the borders, peculiarly adapted for the food of carp. When the pond is too full, the water should be let off by the sluice into the second pond, and so on to the third, and then be suffered to run to waste. By this method, the water of all the ponds is freshened, and much food is secured by the fishes.

Care must be taken in frosty weather to break the ice around the edge of the pond, or the fish will perish for the want of air; for, fishes cannot subsist, any more than terrestrial animals, without an absorption of oxygen. When the connection of the water with the external air is cut off by a solid crust of ice, it is highly probable that sooner or later the water will part with no more of its oxygen. This conclusion is drawn from the fact, that fishes in a bowl of water beneath an exhausted receiver, soon die, although the water still contains much oxygen, or it would no longer be water, but hydrogen gas. To obviate this difficulty, it has been recommended to drive pipes of metal or wood into the bottom of the ponds, with the upper end of each pipe rising above the water, and with one or more side openings to the tubes below the surface, in order to allow the air to pass down, and afford the fishes a fresh supply, while the rest of the surface is covered with ice.

At certain seasons, the ponds are fished, by drawing off the greater part of the water and transferring the best of the fish into small *stew-ponds*, situated in the garden or some other convenient place. These may be three in number, each about twenty-four feet long and twelve feet broad, in which the fish may be kept until wanted for the table or for the market.

Walton recommends that the pond be cleared once in every three or four years, by letting off the water and allowing it to remain dry during some months. This will kill water-weeds, and encourage the growth of grass. He even advises the sowing of oats in the bottom after the water has dried off. Bushes and reeds should be pulled up, but the mud must not be removed. Enough water should be left in and about the sluice, to sustain the fish necessary to re-stock the pond.

Boccius says that in England the ponds being neglected, the fish are muddy, earthy, or weedy, and hence they are not esteemed; but if properly attended to, the fish will not only prove fat, but of far superior flavor to those taken from common and ill-regulated ponds and stews. He also insinuates that much is to be learned respecting the modes of cooking fresh-water fish. As soon as killed and cleaned, they should be well rubbed, within and without, with salt, to extract the watery particles. They should then be allowed to remain so for some time, before they are cooked, when they should be well washed out with pure cold water, wiped thoroughly dry with a clean cloth, and afterwards cooked by an approved mode. D'Jay Browne.

*New York, Sept.* 10, 1846.

## TREES AND PLANTS TO WITHSTAND THE SEA-AIR.

Will Mr. Browne or some other correspondent inform me what ornamental trees and plants will grow, without injury, in the immediate vicinity of the sea? A Summer Resident of East Jersey.

In consulting Mr. Browne on this subject, he has furnished us with the following list:—

### TREES AND SHRUBS.

American sycamore, (*Platanus occidentalis.*)
Norway maple, (*Acer platanöides.*)
European sycamore, (*Acer pseudo-platanus.*)
Sea buckthorn, (*Hippophae rhamnöides.*)
Willow-leaved buckthorn, (*Hippophae salicifolia.*)
White pine, (*Pinus strobus.*)
Cembrian pine, (*Pinus cembra.*)
Stone pine, (*Pinus pinea.*)
White beam-tree, (*Pyrus aria.*)
Japanese quince, (*Pyrus japonica.*)
Beach plum, (*Prunus maritima.*)
Scorpion senna coronilla, (*Coronilla emerus.*)
Beautiful Leycesteria, (*Leycesteria formosa.*)
French tamarisk, (*Tamarix gallica.*)
German tamarisk, (*Myricaria germanica.*)
Willow-leaved spiræa, (*Spiræa salicifolia.*)
Bloody-flowered colutea, (*Colutea cruenta.*)
Racemosed-flowered elder, (*Sambucus racemosa.*)

### HERBACEOUS PLANTS.

Broad-leaved statice, (*Statice latifolia.*)
Tartarian statice, (*Statice tatarica.*)
Heart-leaved hydrangea, (*Saxifraga cordata.*)
Rough-leaved saxifraga, (*Saxifraga crassifolia.*)
Evergreen iberis, (*Iberis sempervirens.*)

## HEREFORDS.—No. 3.

After a long pause, I resume my articles on the Herefords. The delay from the last number to this time has arisen partly from my own inattention and partly from the neglect of my friend Sotham, to furnish me certain information.

While he was inattentive to his own interest, and I to the continuation of the series, I began a correspondence with several persons in England, with a view to obtain information as to Herefords, from *the breeders* of Herefords. I sought to possess a knowledge of the herds of several of the distinguished breeders. To some of my letters no answers have been returned.

I had hoped to give to the public full particulars of the herds of Mr. Price, of Worcestershire, and the late Mr. Tompkins, as continued by his daughters, Westcar, the Seignors, &c. Unfortunately, Mr. Price was dead, and no one could give me the desired intelligence. Of the Misses Tompkins I learned one or both were dead, and that the herd, left by their father, had been for a while continued to be bred by them, but had at length been sold at high prices, and dispersed. Mr. Price had been a breeder for sixty years, and his father before him. Mr. Tompkins died about 1817, an aged man, and had bred Herefords for fifty years before his death. Mr. Price had a reputation *all over* England as a breeder, while yet both the Collings were known only *provincially;* and had shown wonderful oxen long before the Durham Ox of Mr C. Colling and the White Heifer of Mr. R. Colling were exhibited, and had called attention to the Short-Horns. This was at the period of the breeding of the two Collings. In their day, the Short-Horns were confined to the North of England, while the Herefords, as the great grazing and beef animals, occupied the whole of the South and Middle of England, almost exclusively, and had penetrated the North, in some measure, even to the borders of Scotland. Among the first of breeders of Herefords he was known wherever they were bred, and bulls from his herd were annually let at high prices to breeders in every part of England. But, unfortunately for him, he did not claim to have created the Herefords, and no one did it for him. He was only perpetuating and improving them.

While the Short-Horns had historians to trumpet their excellence to the world, and the papers were, through interested parties, heralding the sales of Charles and Robert Colling, nobody wrote of the Herefords; no paper spoke of the annual letting of bulls at enormous prices, by such Hereford breeders as Price and Tompkins, and the great sale of Mr. Tompkins (about the period of that of the Messrs. Colling) never was published in any public journal. And why was all this? The Herefords were so widely spread, and so generally known and appreciated for their great capacities, that no one felt it was necessary to tell the world these facts. As demand outwent production, their breeders did not feel that it was necessary to sound their own praises, and inform the world of the merits of their cattle. The result was, that when the breeders of Short-Horns came into the field of history with their animals, they alone were in possession of it.

Of these historians, first in the series, came the late George Culley, of Grindon, Northumberland, who, in 1784, published a book on Cattle. He was a Short-Horn-breeder (and that of distinction, twenty years before either Colling commenced), and the Herefords fare badly in his hands. Next followed Bailey, of Durham; and then in the succession of time, the Rev. Henry Berry; and, finally, Youatt, *who merely re-produced the account of Berry, re-written by Berry.* All these men were the open advocates of the Short-Horns, and two, Culley and Berry, breeders of them. Is it wonderful, then, that in America we should have erroneous opinions respecting them? In the only histories we have of them, written by interested parties, they are decried by interest, and that of the keenest kind,—a rival interest.

Here we have never heard of the great number of Hereford breeders, equal in skill and success to Price (father and son) and Tompkins. Who ever, among us, heard of Westcar and the two Seignors, and I might add a host of equal reputation? And yet these men, for an age almost, held sway, and *uninterrupted sway,* at the Smithfield Christmas Cattle Shows; and have been succeeded by others equally unknown, who now carry away eight out of every ten of the prizes offered by the Smithfield Club. And still the Herefords are merely the tenant farmer's cattle, and only in one instance have they found a titled patron, the Earl of Warwick; while the Short-Horns are the gentleman's cattle, and Dukes, Marquises, Earls, Viscounts, Barons, Baronets, Gentlemen and Tenant Farmers, are the breeders and feeders of the Short-Horns. Against the Herefords are wealth and rank, and only in the hands of wealth and rank have the Short-Horns been able to beat the Herefords, when shown at Smithfield. How many prizes have been won at Smithfield by tenant farmers, with Short-Horns? None. Earl Spencer and Sir Charles Tempest have won. Can any man in America say he has ever heard of prizes carried by Short-Horns fed and shown by untitled men? Can all this mean nothing? Surely no. Wealth can do almost anything. It can unprofitably feed and show a Short-Horn, and win the prize against a profitably fed Hereford. But this it will rarely do, and the result is, that rarely do the Short-Horns beat the Herefords at Smithfield, and this is the only field of any distinction where they meet in common, and on equal terms.

I mean this as a sort of preface to a criticism upon the histories of Culley, Bailey, Berry, and Youatt. The two last are regarded as authority as to cattle in America, and by a certain party, Youatt is looked upon with veneration. As to Berry, I think Mr. Lewis F. Allen, in his lately published (and capital) book, the History of the Short-Horns, has entirely demolished him as authority on Short-Horns; and I shall endeavor to show that he is not entitled to regard as authority on Herefords.

Mr. Youatt did not even write the various accounts which he published, and is not regarded in England by breeders of any of the approved races of cattle, the Short-Horns, Herefords, Devons, &c., as entitled to the least consideration. I feel that it is necessary to make a clear field before I proceed to attempt to make good my original position. This I shall do, because of the reason that my views and opinions have been harshly assailed, and against me, in conversation, I have had quoted Youatt and Berry as authority, as if they were the only people in the world who ever did, or could, know anything of Short-Horns and Herefords.

By the issue I will abide, trusting at some not distant day, to see the Herefords scattered all over those regions of our country which grow beef and travel it on the hoof to market. In such regions the Short-Horn can never beat the Hereford.

Let me not be misunderstood. I am the advocate of Short-Horns; the best cattle I ever saw were Short-Horns, bulls cows and oxen. But the Short-Horns are far from an even race of cattle. The worst cattle I have ever seen were Short-Horns. Not so are the Herefords; they are very even in quality, and are far superior to ordinary Short-Horns in everything, and are superior as travelling and working beasts to any Short-Horns.

A. S.

## REPLY TO QUERIES ON BUTTER-MAKING

I HEREWITH reply to the queries on butter-making, which appeared page 252, August No. of the Agriculturist.

Let the cows be milked early in the morning, before the flies trouble them, and as late as possible in the evening—for the same reason.

Let the milk be *immediately* strained into pans, which have been previously filled to the depth of *half an inch,* with *fresh* cool spring water.

Skim off the cream while the milk is sweet.

Keep the *cream cool,* and churn it while it is *sweet.* I prefer *stone churns,* they being more easily kept clean and *sweet*—this is all important. Great care must be taken to keep the *milk pans sweet.*

A teaspoonful of salæratus to a gallon of cream is sometimes an assistance when the butter does not come readily—a little salt may also be used—but these are not certain remedies. The surest way is to keep your cream in an ice-house in warm weather.

*Sour* milk, *we find,* will not produce so much nor so good butter as *fresh* milk.

We churn our cream at a temperature of about 60°—cooling the churn by pouring into it, during the *churning*—say three times—a little cold water.

The *steadier* the churning, the sooner the butter will come—say from 15 to 30 minutes.

We always churn our cream—never the milk.

The above is the result of three years' careful experiments, and may, I hope, be of service to the inexperienced.

For want of a better, a *stone pot* may be converted into a churn in 15 minutes, by any true farmer—*as all such* understand the use of tools.

*Setauket, September,* 1846. A. H.

PLANTING TREES.—The Spaniards are infinitely more careful than other nations in planting trees; for it rarely happens, when a Spaniard eats fruit in a wood or in an open country, that he does not set in the ground the pips or stones; and hence in the whole of their country, a vast number of fruit-trees of all kinds are to be found.

## DEVELOPMENT OF BUDS IN CORN.

While recently conversing with an observing and experienced farmer upon the laws of development in the kingdom of nature, I mentioned a demonstration which I had observed, and used before the Senior Class in our Institute, in my course on Vegetable Physiology. The facts were new to him, and supposing them so to farmers generally, he requested their publication.

As I have so often promised our mutual friend, Mr. S. Wait, Jr., to furnish something for your columns, I have concluded to send you the extract from my manuscript. The particular topic of the lecture was the "Formation and Development of Buds."

"You will observe, gentlemen, that this stalk (a stalk of sugar corn from my garden, about in the bunch, as they say at the South, dissected longitudinally) has twelve leaves or blades. At each axil of the seven lower blades, you perceive a bud cut through its longest axil. The white line in the centre, with the indented line on either side, is the pith of the cob; those delicate silky filaments passing from each re-entering of the indented line, are the styles or silk, exterior to these are manifest the blades of the husk. . . . .

"I would call your attention to the fact visible before us, that of the seven buds upon this stalk the lowest is at this period most developed. Did you ever see seven ears of corn upon one stalk? I did, once; it was several years since, in a garden upon the eastern shore of Maryland, the white dog-toothed corn. It grew alone. . . . Next autumn when corn is ripe, you will find this present manifest order of development reversed. Those stalks which perfect any of these buds into full ears, will perfect the top ones. Then you will find the degree of development decrease as regularly downward as it does now upward. This lowest bud, now the largest, will probably be found to have made no advance—the next a small one—the next an increase upon that, and thus to the perfect ear. Should you find a stalk with no manifestation of sets, an examination will exhibit every bud, and with the same relative degrees of development, though each less advanced than when the top bud is perfected.

"The formation of the buds always takes place if the leaves are developed. The order of early and later development, though reversed in regard to each other, is in all my observations the same. I speak of corn as usually cultivated. The degree of development depends upon variable circumstances, and is consequently variable. The number of buds depends upon the variety; some varieties forming more, some less. This sugar corn, you perceive, has seven; our varieties of field corn vary from five to seven buds. Our modes of cultivation perfect from one to two, sometimes three, and occasionally four, very rarely five."

Since copying for you the above extracts, I have examined the Peruvian corn, the seed of which I received through your kindness last spring. It has nineteen leaves, and has formed ten buds, though none are perfected.

If the facts mentioned above have before been noticed in your paper you will of course know how to dispose of them. If not, you will fully appreciate their value. The practical reasonings from them belong to another lecture, which I may, at some time, present to you. Light, or rather want of light, doubtless has much to do in reversing the order of development. J. Darrach.

*Walden, Orange Co., N.Y., Sept.* 8, 1846.

## DIRECTIONS FOR MAKING PLASTER-CASTS OF FRUIT.

Procure a square box large enough to admit the fruit, and leave a space of at least half an inch on every side; divide this box into two equal parts by a horizontal section, and fit the parts together with pins, in order that it may be taken apart and put together again in the same position with facility; fit a tight bottom to one half, and having made a composition by melting together two parts of beeswax and one part of rosin, fill the half box having the bottom with it, nearly to the brim, and when nearly cold, sink the fruit into it to its greatest diameter, and hold it steadily there until the composition is hard enough to bear its weight; the fruit should first be prepared by covering it with a thin coat of oil that it may slip readily from the mould—and if of a kind having cavities at the ends, as the apple or pear, a hole should be made through it from the blossom to the stem, to allow the air to escape when pressed into the wax. When the composition is hard in the lower box, grease the surface around the fruit to prevent its adhering to the wax of the upper half of the mould—place on the upper half the box, and pour in the composition until the fruit is covered; a plug should be placed between the boxes in such a manner as to form, when taken out, an opening into the mould; when all is perfectly cold, the boxes may be separated, and the fruit and plug taken out; cover the inside with a slight coat of grease rubbed on with the finger; place the boxes together again in their proper position, and the mould is finished. Mix now sufficient well calcined plaster with water, to about the consistency of thick cream, to fill the mould, and pour in immediately; and in a few moments the plaster will be set, and may be taken out.

Before painting, it is well to give the cast one or two coats of copal varnish. Oil colors should be used, they stand the weather better.

The greatest difficulty I have found in making a perfect cast is in getting it free from the little bubbles of air that remain in the plaster and settle on its surface; to prevent this, shake the mould while the plaster is "settling."

Care should be taken to place the fruit in the box in such a position as will allow it to "draw;" the division of the mould must be exactly at the greatest diameter of the fruit. The mould may be taken with plaster in the same manner as with wax, in which case it is necessary to varnish it before using.

The stem of the fruit that is cast, should be preserved and put in the cast; it adds greatly to the appearance, and is sometimes characteristic of the variety.

If there is anything peculiar about the flesh or core, the cast may be cut in halves and painted to represent the inside.—*Ohio Cultivator.*

## MANAGEMENT OF HONEY-BEES.—No. 4.

The only covering or roofing necessary for hives placed as before described, is a couple of boards, say 15 inches wide, fastened together with stout leather hinges, and placed upon the top of the hives, with a small block of wood upon each hive, in order to raise the centre of the boards, and give a descent to the sides, to carry off water. Previous to strapping the boards together, they should be secured from warping by cleats upon the upper sides, fastened with wrought nails. When there are several hives to cover, it is best to divide the roof into strips of six feet long, or half the length of ordinary boards, for the greater convenience of removing them, which, at certain seasons, is necessary to do, in order to remove hives from one station to another—a very important matter—as will be shown hereafter. This roofing may be secured from removal by heavyweights,by cords attached to the sides, and secured to the posts that support the hives. The question may be asked why it is necessary to have any roof at all. A roof of about 2½ to 3 feet wide, is important for various reasons. In the first place, to protect the hives from natural decay. Secondly, it affords protection to the bees when they cluster out largely, as they will take to the inner sides of the hives, and thus be secure in almost any storm. Thirdly, it protects the supers from the melting rays of the sun, which would endanger the combs. I once found the honey running in a stream from the bottom board of one of my hives, and on examination I found the combs in the super melted down flat, from the effects of a June sun, in a case in which I had omitted to cover the hive. Even the old combs below would be in danger of melting, without any roof; but this kind of roof will shade the hives half-way down to the bottom, which is sufficient. In the spring of the year, let the roof be removed back, so as to present the entire front of the hives to the sun, as it helps generate the necessary heat within to bring forward the young brood. As the season advances, say about the first of June, then let the roof be brought forward to the centre, if fronting the east, and somewhat past the centre, if fronting the south, in order to give the bees the greater shade.

I consider this kind of bee-stand as the most economical, and, at the same time, the best adapted to the natural requirement of bees. It allows the hives to be *suspended*, instead of resting upon a shelf or board at the bottom, and permits the bottom-board to be suspended also, with small wire hooks, the importance of which has already been spoken of. It gives a free circulation of air around the hives, and affords as little shelter to the insects as possible; and when they do get a footing, one has an easy opportunity to dislodge them. When made with care, with posts planed and painted, its appearance is not bad, but rough posts and rough boards for a roof, with a good coat of whitewash, will answer the purpose very well.

The *situation* of the bee-stand will next claim our attention. The reader will, as a matter of course, say, " it should front the south," because he has always *seen* them so. I admit that we generally see them so, and we also see the hive housed up in the warmest possible situation in the winter season, where not a breath of air can reach them, except from the south, and we find such situations calculated to decoy out the bees in the dead of winter, when the sun shines clear! But do these bees ever *return?* Look upon the snow around your bee-stands—that will answer the question. I I have often seen the old women, and even men, picking up the torpid bees in pans, and endeavoring to warm them into life; and if they should be restored to the hives, perhaps the next day they would be found in the same condition. These people had not sense enough to know, that by beating out the backs and ends of their bee-houses, the bees would stay at home! Well, my dear reader, if you have always seen bee-houses face the south, I do not care, I shall front mine to the *east*. There were upon a time two certain husbandmen living near each other; the one allowed his hired hands to sleep till the sun had reached a considerable altitude—and it was remarked how little he performed during the season. The other called forth his hired men as soon as the dawn of day would admit, and people were astonished at the quantity of produce gathered into his barns! Now, the result of two stocks of bees, the one facing the east, and the other the south, may not be dissimilar. The bees facing the south wait for the morning sun to throw his rays upon their place of egress, before they will venture forth, which is some two hours later than upon the hives facing the east. Then you will see the bees of the one at work long before the bees of the other think of sallying forth, and the result of their labors, when the honey-season is past, may not be disproportionate to the result of the labors of the two husbandmen. This difference of the bees departing to the fields in the morning, is the most perceptible in the months of May and June. When the heat of summer approaches, there is not so much difference, from the fact, that the bees find the temperature, at any time, suited to their wants. When there is but a single hive suspended on my plan, with the bottom-board hung so as to admit ingress and egress from all sides, it does not matter how it fronts; but when there is a tier of hives, they should face the east, as the easterly end hive would only be rightly placed if all should face the south. The bee-stand must either face the south or the east. It will do well to front the south, but better to front the east; and in either of these positions, it should be exposed to the full force of the sun. In the spring it is very important, but not so much so in the summer. Avoid the shade of trees, for the drippings retard the bees in sallying forth after showers. Let your location be one without shelter from any quarter, and particularly where the winter winds will have a fair chance to sweep among the hives, for by this means the bees are kept at home, where they belong in the winter season. I do not advocate a change of situation for hives in winter, as some do. It is attended with too much trouble where there are many hives, and a good winter location is a good summer location, and *vice versâ*. If your dwelling stands very near to the banks of a river, pond, or lake, place the stands as far from the water as possible, as the bees are liable to be forced down into the water, by high winds, while they are returning home heavily laden. T. B. Miner.

*Ravenswood, L. I., Sept. 16th,* 1846.

## COMPARATIVE VIEW OF THE COTTON CROP.

A GREAT many readers of yours will run over your news of the "Last Year's Cotton Crop," without giving an examination, and will thus be influenced—may be, it will have considerable effect in our market. I presume that none but the bigoted will hesitate to admit, that the cotton crop has more influence on the welfare, or probably on the prosperity of America, than that of any other—always premising that we had our "daily bread;" therefore, the correction of any unfavorable impression would be of more or less advantage. But to the matter in hand.

By the Report of the Board of Trade, it is proved that, in 1845, 1,069,320 cwt. of cotton were imported into Great Britain; during the present year, 1,019,738 cwt. The difference in weight is thus reduced to a trifle less than 50,000 cwt., or above 15,000 bales. In other words, the falling off in *weight* this year, as compared with last year, is over 4 per cent., but the falling off in the number of bags above 26 per cent! The inference then drawn, is that there is no faith in the shortness of the crop, and that prices cannot improve.

I have seen the remark made—"deliver us from our friends,"—and well may the cotton region repeat it, when alluding to our Northern friends. I am very willing to admit that we have often erred in our estimates, but I deny the inference, that we intended to deceive. The cotton crop is more difficult to estimate until gathered, than any other grown, so much depends on the season and the lateness of frost. We have been so sanguine at times of a shortness of the crop, and desiring to have *an honest* advantage of the fact, that we have prematurely judged; the season proving more favorable has made our estimates fail. I may not know myself, nor may I know others, but I believe, nevertheless, that a more magnanimous and honest people than the cotton planters do not exist this side of heaven, and I would tell my own dear parents that they spoke hastily at least—if they would say that we made false statements for money. To say to you precisely my opinion of this estimating,—I do not believe there is any man who can tell within 100 lbs. per hand, what I will make, scarcely one year out of ten, on the 1st day of August, and that he will frequently fail one bale, and just as apt as not full 100 lbs. per acre, of seed cotton. In alluding above to our Northern friends, I mean to say that they generally give publicity to the largest estimates, and some insist that they know best.

The estimates above are truly, I suppose, from foreign data, but the data are so glaringly absurd that any one ought to detect the error.

Agreeably to information received from a cotton merchant in New Orleans, J. A. Ruff, I am able to show that the falling off in receipts in the United States, up to August 1, was 361,745 bales; I would like to see how this deficit is made up in Great Britain. The quantity you state as being imported into Great Britain in 1845, 1,069,320 cwt., if multiplied by 112 lbs. in a cwt., will give 119,763,840 lbs. ONLY, and the receipts in 1846, 1,019,738 cwt., or 114,210,656 lbs.

If the first number be divided by 350, which is considered as an average weight of bales, we would find the receipts in Great Britain as 342,182 bales—about enough for 12 or 13 weeks' consumption.

George Holt & Co., cotton brokers in Liverpool, under date Dec. 31, 1845, give as import of 1845, 1,855,700 bales. See Commissioner of Patents' report, pages 795 and 797.

The amount received in 1844 and '45.

| | |
|---|---|
| In New Orleans, | 945,203 |
| In Mobile, | 515,052 |
| In Savannah, | 298,936 |
| In Charleston, | 416,431 |
| In Florida, | 184,288 |
| In Virginia, | 21,200 |
| In North Carolina, | 12,080 |
| Total, | 2,393,190 |
| Crop in 1845–'46 | 2,026,848 |
| Decrease to July 28, | 366,342 bales. |

Amount received in 1845 and '46, up to July 28.

| | |
|---|---|
| In New Orleans, | 1,033,737 |
| In Mobile, | 420,162 |
| In Savannah, | 176,370 |
| In Charleston, | 240,456 |
| In Florida, | 131,867 |
| In Virginia, | 12,125 |
| In North Carolina, | 9,131 |
| | 2,023,848 |

Later dates up to August 1, give me—

| | |
|---|---|
| The export to Great Britain last year, at | 1,428,935 bales. |
| To date this year, | 1,053,353 |
| Decrease, | 375,582 bales. |
| Export to France last year was | 345,330 |
| To date this year, | 339,271 |
| Decrease, | 6,059 |
| To other ports last year, | 280,489 |
| To date this year, | 181,094 |
| Decrease, | 99,395 |
| Total exports to foreign ports last year, | 2,054,754 |
| To date this year, | 1,573,718 |
| Decrease, | 481,036 bales. |
| Add to this a decrease in Northern ports this year of | 17,450 |
| And we have a decrease of exports *in toto*, of | 498,486 |

Now, sir, you see at once that your data are too erroneous to be any criterion, and that we must rely on the receipts and exports according to the U. S. accounts—which will place the crop without much doubt on the 1st of September, that being the usual date at which the year closes, at full 500,000 bales short, which, added to the decreasing stock on hand, will and must leave the stock at less than 700,000 bales, supposing the consumption to continue in '46, as in '45, at over

29,000 bales per week. As to weight of bales, it is impossible that the increase in weight of bales can make up the deficit between the apparent decrease of 26 per cent., and the real one of 4 per cent., and I believe it is a mere catchpenny manœuvre. Consider, the bales of the southwest average about 420 lbs., and those of Carolina about 330; add to these even 25 per cent., and we have Mississippi bales at 525 lbs., an increase that never occurred in one year even on one plantation; and I venture that the difference in weight has not varied 20 lbs. for 15 years, if we take out the advance made on cotton per bale, by banks. I mean to say, that the present average weight of bales has not been 10 lbs. less or 10 lbs. more for any one year, in 15 years, except the banking years. And I say further, that a jury of twelve men selected from the cotton states, or from the cotton-receiving cities, would say the difference in weight has not been over 20 lbs., *if that*, for the past five years. And why should it be? Freights have not advanced, our presses are not more powerful, nor is our cotton easier compressed—and a majority of us could not press 500 lb. bales without a greater loss of time and labor than would be compensated by the little saving. That the shortness of crop admits now of no possible doubt, I am well convinced, and I believe it exceeds the apparent difference. Why, say you. Because I know of some planters who held on to a part, or the whole of 1844 crop, hoping better prices, and that the improvement in 1845 caused them to send it forward, which was added to the '45 crop, but of course it does not affect the quantity received. If you will refer to page 279 of the Report of the Commissioner of Patents, you will see that I estimated a probable decrease of 300,000 bales, on the 5th of last September.

The matter now that presses forward—"what hopes have we in an advance?" I believe we may hope for it, not only on account of the certain vast reduction of stock that must be on hand, January, 1847, but from the prospect of this crop. I am aware that new cotton has gone forward already, a few bales, and I believe it will injure the U. S. to hundreds of thousands of dollars, because the fact of cotton going into market before the 8th of August, is too strong proof of the forwardness of the crop, for the opinions of all planters to the contrary, to show the truth. Notwithstanding this, and that I will have no credence, I assure you that the crop, so far as I see, or can hear, is from two weeks to one month later than the last crop. I have seen many large fields, have conversed with a large number of planters, and the information is—"two weeks later," "three weeks later," "I believe about one month later" than last year's crop. In my immediate vicinity, there are five families belonging to our connexion, of which I am one, and I know we were picking cotton at this date last year, whereas I can see no prospect of being three weeks hence where we were at this date. As to myself, my cotton book, kept accurately for 15 years, will show that on the 15th of August, 1845, I gathered an average of 160 lbs. per hand, and that I began to pick on the 4th of August. This year I have not seen an open bowl, and have not yet stopped my team or my hoes, a thing that never occurred before. My neighbors are generally in the same fix, or if not, the grass in cotton fields shows they ought to be. The thing is certain—it is impossible for Mississippi with her mammoth load of 550,000 bales, to get it into market as early as last year; and though she may make the crop, yet, with an ordinary season, much of it must be a total loss. Again, all cotton planters know, that a seasonable, rainy year, is not favorable for a large crop, and that a crop in the grass from May to August, cannot mature as early, nor make so much, and that large, pretty cotton, is always deceptive.

I therefore conclude—the crop of '46 is more dependent on the latter part of this season than any I ever saw; that an early frost, with these constant rains, will cut the crop under two millions of bales; and if the fall be very late and favorable, that we make the largest one that ever was made—but the fall must be *very* late, because there is not a crop of early fruit, nor a fair show for a middling one; our dependence then is for a late crop of fruit. I would not be at all surprised if our crop dropped under two millions, which, with peace with Mexico, and no more experiments by the Government of these U. S., will bring forward the most thrifty times we have seen for ten years. M. W. Philips.

*Edward's Depôt, Miss., Aug. 9th,* 1846.

## DISEASES OF FOWLS.

A Correspondent in your journal (p. 241, current volume), who signs his name S., has thought proper to condemn my mode of curing fowls by a surgical operation. He says he has opened the crops of many hens, but never saved one. His *modus operandi* must have been wrong; for, from its simplicity, a child with a common penknife, could perform the operation. S. comes to the conclusion that, had I given my fowls plenty of lime and gravel, the case would not have happened. Now I contend that my fowls had plenty of lime, gravel, and fresh water. Consequently, it could not have been that your correspondent intended to lead your readers to believe that my fowls had none, and had become crop-bound. Furthermore, he says that he doubts whether any fowl would swallow anything liable to obstruct the passage of the stomach. If any one has any doubt of this, I can only affirm that the most apt thing that hens are liable to swallow, is dead particles of grass, which become matted, and create a stoppage.

In conclusion, I would merely say, provide your hens with proper food—lime, charcoal, gravel, and fresh water; and if they get crop-bound, resort to the knife, as directed on page 142 of this volume.

*Keyport, N. J., Sept. 5th,* 1846. H. T. Lloyd.

Atmosphere near the Sea.—From various experiments made by the *savans* of Europe, it has been ascertained that the atmosphere over the sea contains less carbonic acid than that over the land; that, when the sea is rough, and especially when the wind is violent, particles of sea-water, in a state of great tenuity, float in the air, particularly on the coast where the waves break; and that these particles are carried to greater or less distances, according to the violence of the wind, and the degree to which the sea is agitated. Hence the influence of sea-air upon the soil and vegetation in places near the sea.

# Ladies' Department.

## DOMESTIC EDUCATION OF CATS.

It has not been ascertained at what period cats were first classed among domestic animals; but as this is of little consequence, I will endeavor to give some account of them from the time that their useful and amusing qualities brought them into general notice, as forming a part of our household comforts. The finest species of domestic cats are those called Angora, which are remarkable for size and strength of body, elegance of the head, softness of hair, and docile qualities, which rank them precedent as domestic cats. Every country has its peculiar species;—that of Tobolski is red; that of the Cape of Good Hope blue; and those of China and Japan have pendent ears; Pallas informs us, that in Russia the muzzle is small and pointed, and the tail six times as long as the body.

At all times, cats have acquired some influence, indeed, may be considered favorites with women. There were very severe laws enacted in Egypt against those who killed or even ill-treated this animal. They carried their notions so far as to be quite ridiculous; for they actually worshipped them as their gods, made great lamentations at their death, and buried them (according to Herodotus) with much pomp. In China, this animal is indulged with a bed of down and silk, where it remains in a state of indolence, or lies at the feet of its mistress on a sofa, covered over like a child, decorated with a silver collar on its throat, and its ears adorned with ear-rings of jasper or sapphire. The Turks have places made or rented for them, that they may be fed and attended to by servants engaged for the purpose. They enjoy a still happier life in France; as faithful companions to their mistresses, they not only amuse them, but, by their gentleness and playful tricks, dispel *ennui*. They seldom look you in the face, but obliquely.

I have remarked that naturalists have not spoken much in favor of this animal, particularly Buffon, who says, "that the cat may be considered as a faithless friend, brought under human protection to oppose a still more insidious enemy. It is, in fact, the only animal of this tribe whose service can more than recompense the trouble of education, and whose strength is not sufficient to make its anger formidable. Of all animals, when young, there is none more prettily playful than the kitten; but it appears to change this disposition as it grows old, and the innate treachery of its kind begins to show itself. From being naturally ravenous, education teaches it to disguise its appetite, and to seize the favorable moment for plunder. Supple, insinuating, and artful, it has learned the art of concealing its intentions till it can put them in force; whenever the opportunity occurs, it directly seizes upon whatever it finds, flies off with it, and remains at a distance till it thinks its offence is forgotten."

The aversion cats have to anything like slavery or imprisonment is so great, that by means of it they may be forced to prompt obedience; but, under restraint, they are very different; though surrounded by food, when deprived of liberty, they abandon the desire of theft or prey, and literally die of languor and hunger. Lemery, after having put a cat into a cage, suffered two or three mice to run through it. Puss, instead of destroying them, only looked at them with apparent indifference. The mice became more bold, and even attempted to provoke her; however, it had no effect, as she still remained quiet. Liberty being given her, her strength and voracity returned; so that, had the cage been open, the mice would soon have become her prey. They also fear severe chastisement, and therefore this may be considered the best means of enforcing obedience. It is related that the monks of the Isle of Cyprus instructed cats to drive away serpents which infested the island; and they succeeded so well, that in a short time they were relieved of the venomous reptiles.

The effect that both sound and music have upon this animal is well known. They, like dogs, may be made to answer the call of a whistle. An invalid, who was confined to his room for some time, was much amused by this means, and with other proofs of the docility and sagacity of a favorite cat. Valmont de Bomare saw, at the fair of St. Germain, cats turned musicians, the performance being announced by the title of the "Mewing Concert." In the centre was an ape, beating time; and on either side were the cats placed, with music before them on the stalls. At the signal of the ape, they regulated their mewing to sad or lively strains. One of our celebrated naturalists assures us that they *are* capable of gratitude, and may be considered faithful.

After so many instances well known, why should so severe a sentence be passed upon these animals? It is said (without proof) that education has no effect upon their natural savageness; but I cannot imagine why this should be asserted, when we notice how quietly a cat will obey its mistress, and remain by her side most of the day, if required; will run when it is called, and appear unsettled and unhappy during the absence of its protectress; and how delighted when she returns, as it proves by its caresses, not acting from dissimulation or cunning. When cats have attained these social habits, they will retain them till their death; and thus brought up, they lose their inclination for mice and rats, and are devoted to those who are attached to them. From all that can be said, this conclusion may be drawn, that the more pains are bestowed upon educating them, the less they show of their natural wild state.—*Magazine of Natural History.*

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To make Kitchen Vegetables tender.—When peas, French beans, and similar productions, do not boil easily, it has usually been imputed to the coolness of the season, or to the rains. This popular notion is erroneous; the difficulty of boiling them soft arises from a superabundant quantity of gypsum imbibed during their growth. To correct this, throw a small quantity of sub-carbonate of soda into the pot along with the vegetables, the carbonic acid of which will seize upon the lime in the gypsum, and free the legumes, &c., from its influence.—*From the French.*

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Crust on Boilers, &c.—Potatoes and flour will prevent the incrustation of boilers and kettles.

## Boys' Department.

### RUMINATION, OR CHEWING THE CUD.

The process of chewing the cud is always connected with a complicated stomach, excepting individual instances, as in man and the kangaroo, there being at least four distinct chambers, the structure of each of which is very different.

The first, which is similar to the crop or craw of birds, is termed the paunch, and serves by its heat and somewhat scanty moisture, to prepare the herbage for farther change. It is situated on the left side, and lined with a rough membrane studded with small flat projections. It is inferred to have a rotatory motion, from the round masses of hair, called bezoar stones, frequently found in it, arising from the union of hairs licked off, from time to time, by the animal when cleaning itself, and said, without proof, to be miraculously medicinal. In the chamois, the bezoar stones appear to consist of vegetable matter.

The second is termed the honeycomb bag, king's hood, or bonnet, is much smaller than the paunch, and is situated on the right of the lower end of the gullet, which opens in common into it and into the paunch. On the inside a number of shallow cells, like those of a honeycomb, are formed by a projecting membrane, and the whole is lined with a rough scarf skin continuous with that of the gullet and paunch.

The third is the smallest of the four, and is named the many-plies, because the inner surface rises up into a great many folds, one above the other, amounting to about forty in the sheep, and about one hundred in the ox, and covered with a rough scarf skin. Some of these folds project farther than others, there being first two long ones on each side, and within these, two shorter, and so on. The smallest of them, between the opening from the honeycomb bag, are puckered, so as to act as a valve between this third chamber and the fourth.

The fourth, which is exclusively the digestive stomach, according to Dr. Carus, is called the rennet bag, or red. Here, as in the simple stomachs of beasts of prey, we find no lining of scarf skin, which goes no farther than the many-plies; but a soft mucous membrane, which has the property of curdling milk, and that of the calf is used for this purpose in cheese-making.

It is important to observe, that, from the inlet of the paunch or first stomach, from the termination of the gullet, near the junction of the second and third stomachs, there runs to the third stomach a groove, which I shall call the cud-duct, with the first stomach on its left, and the second on its right. This cud-duct has thick prominent margins, which can be brought to meet so as to form a tube, and constitute a continuation of the gullet across the second into the third stomach. This duct was ascertained by M. Flourens to remain always open, even when the gullet inlet of the first stomach was closed.

When an ox or a sheep first swallows grass or other herbage, it passes chiefly into the paunch, but both partly, *immediately and successively*, into the second stomach; but, in the instance of liquids, such as broth, a portion always passes into each of the four stomachs *immediately;* the only opening into the third stomach being very straight, and capable, also, of being quite closed, so as to prevent the passage of anything coarse. The reason why liquids pass into the third and fourth stomachs is, that unless the gullet-inlet into the first stomach is expanded by a morsel of solid food, the cud-duct is more open to receive the liquid, and, for the same reason, the cud-duct is prevented, by the expansion of the gullet-inlet, from admitting solid food.

In the process of common vomiting, the contents of the stomach are, by the action of the midribs and the muscles of the belly, ejected in a mass; but in chewing the cud, there is only a small rounded pellet brought up into the mouth, so that the process is in this very different from vomiting. Bourgelat denied the existence of the pellet, and Daubenton says it is formed by the second stomach. M. Flourens ascertained, beyond all question, that the pellet or cud (which is only a different way of spelling *quid*) is detached from the mass of aliment in the paunch, by the latter contracting and pressing the mass upwards towards the adjacent inlets of the paunch, the many-plies, and the cud-duct, which seize and detach from it a portion about an inch in diameter. The space, also, which these several adjacent inlets enclose, being round, and its walls in motion, the pellet is thereby rounded, and at length pushed up into the gullet, and returned to the mouth.

It is very remarkable, that, during the formation of the pellet, a very copious flow of spittle takes place from the mouth down the gullet, without which the pellet, which is rather dry at first, could not easily be brought up. The second stomach, also, has, by its contraction, the opposite open cells brought into contact, so as to form a series of shut cells; an admirable provision for preventing the fluids, always more or less present here, from being brought up along with the pellet.

The pellet, when returned to the mouth, is minutely chewed and reduced to a half fluid pulp, which, on being swallowed, is not solid enough to force open the always shut inlet of the paunch, and consequently enters the always open inlet of the cud-duct, and passes to the third stomach, from which it is forwarded to the fourth. The account of this process by Blumenbach, adopted by our British physiologists, is grossly erroneous.

In consequence of this complicated process, animals which chew the cud can digest more effectually than those which do not, such as the horse, it being common for the latter to pass corn quite undigested, a circumstance that rarely happens with horned cattle; and hence it is well known to graziers, that one-third less will be enough for an ox than for a horse or an ass. According, however, to the recent experiments of De Dombasle and Biot, this will depend, in the case, at least, of roots, such as carrots or potatoes, upon boiling, so as to break the globular crust enveloping the nutrient matter, which the stomach cannot well effect. This matter, formerly called *amidine* from its occurring in starch, has been termed by M. Biot *dextrine.—Professor Rennie.*

## FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamer Cambria, we are in receipt of our foreign journals up to September 4th.

MARKETS.—*Ashes* were in greater request. *Cotton* had advanced fully ⅛d. per lb., with large sales. The stock on hand at Liverpool on the 1st of September, was 744,000 bales, against 934,000 same time last year. *Beef* an advance of 6s. per tierce, with a light stock on hand. *Pork* had improved. *Lard*, the same. *Cheese*, quick of sale with a light stock on hand. *Butter*, little doing. *Flour*, an advance of 6d. per barrel. *Indian Corn* had risen 3s. per quarter. *Naval Stores*, a slight advance in Tar. This article was scarce in market. *Rice*, an advance. *Tallow*, brisk. *Tobacco*, a moderate demand. *Wool*, United States, little on hand, and no recent transactions to quote.

*Money.*—The Bank of England has reduced the rate of interest to 3 per cent. This has given an increased activity to business, and slightly advanced the price of stocks.

*The Weather* had been favorable for the completion of the harvest.

*The Crops* were gathered, and Wheat turns out an average yield; Oats, the same; the Potato crop, owing to the rot, a great failure. The crops on the Continent, especially in France, are rather short than otherwise, so that Great Britain will have to look to the United States for her chief supplies in Provisions. This will be a great boon to the American farmer the ensuing year.

*To Exchange Papers.*—We have one word to say to such of our contemporaries as are in the habit of copying our foreign summary, which is this: we shall expect them hereafter to give credit to this paper for it, as well as the Foreign Journals; for said Journals cost us no small sum per annum, and the condensations from them give us a great deal of extra labor. It is, therefore, no more than just that we should also have credit for the same.

*Importation of Grain.*—The quantity of wheat imported during the past year, has not been so great as in 1845, but that entered for home consumption is much greater—fully 2,000,000 quarters. The import of Indian corn is nearly *six times* greater this year than during the same period of 1845. Of wheat meal or flour there has been an enormous increase in the arrivals from foreign countries. A large quantity of Indian meal has also been imported this season, which forms no part of the returns in 1845; a small quantity appears to have been imported in 1844. Of the total quantity of grain taken into consumption during the period already stated in 1845, was 543,898, and in 1846, 2,301,949 quarters, and of flour and meal, 97,847 cwt. were taken for a like purpose; in 1846, the quantity had increased to 2,197,554 cwt.

*The Scarcity of Apples* and other fruits in England this year will, we expect, afford to the American cultivator of apples an opportunity of exporting that article to this country to some advantage.

*Importations of Provisions into Great Britain.*—This trade has already received an important impetus by the late measures of commercial reform. The import of bacon during the six months ending July 5, 1846, is nearly one hundred times greater than during the same period of 1845. Salted beef more than double; fresh beef 150 times greater; hams are also more than double; and in salted and fresh pork there is also a considerable increase, but not anything like the others. The importation of cheese has not increased during the last year; but, notwithstanding the competition of foreign countries, the value of English cheese has not merely been *maintained*, but *considerably advanced.* For example—in 1843 the quantity of foreign cheese imported was only 63,497 cwt. In that year, in the Wiltshire markets in August, the price obtained by the large dairy farmer was 45s. the cwt. In the present year the quantity of foreign cheese imported has been 113,428 cwt., and the price obtained in the Wiltshire markets during the last month has been no less than 60s. the cwt. The total quantity of provisions, which includes bacon, beef salted and fresh, and pork, imported from January 5 to July 5, in 1845, was 70,311 cwt., and during the same period of 1846, 122,230 cwt.—*European Times.*

*Nourishing Quality of different Vegetable Substances, reckoned from the amount of Nitrogen contained in them;* by E. N. HORSFORD, of Albany, New York, U. S., (Annal. der Chem. und Pharm., vol. lviii., p. 166.)—This is a very able research conducted in the laboratory of Prof. Liebig by the author, who appears to have devoted much time and care to the analyses. Besides simply estimating the amount of carbon, hydrogen, nitrogen, oxygen, sulphur, and ashes in the various vegetable substances that passed through his hands, the proportion of vegetable azotized substances contained in each one is also laid down; this is calculated from the amount of nitrogen and the known composition of these principles as made out by Mülder, Scheerer and others.

The following is the statement of the nutritive value of some of the substance alluded to in the extensive table accompanying the memoir. Wheat is taken as the standard, and the numbers in the table represent how many parts of the corresponding vegetable are equal to 100 of wheat.

| | Theory. | | Experiments on animals by Boussingault. |
|---|---|---|---|
| | Dried at 212°F. | Fresh. | Fresh. |
| Wheat.... | 100. | 100. | 94 |
| Rye...... | 98.8 | 97.6 | 97.6 |
| Corn...... | 115. | 113. | 108 |
| Rice...... | 220. | 225. | |
| Buckwheat | 170. | 166. | 122.7 |
| Peas...... | 57. | 60. | 90.7 |
| Lentil..... | 55. | 58. | |
| Potato..... | 220. | 596.3 | 429 |
| Yellow Beet | 182.7 | 919.4 | 5897 |

—*Silliman's Journal.*

*Potatoes.*—We must again draw the attention of our correspondents to the importance of not coming to hasty conclusions respecting this important matter. It is the worst kind of trifling to pretend that this, that, or the other little experiment has secured a crop, when we are only just at the beginning of the end. We must therefore decline to give insertion to a large number of representations which *can* have no value, and which their writers would regret to see on record hereafter. To imagine that planting shallow, or planting deep, earthing up or letting it alone, and fifty more such crotchets, can have any effect, is worse than absurd; it is mischievous, for it tends to mislead unreasoning minds.—*Gard. Chron.*

*Potato Seed.*—Seeds produced by healthy plants from which the tubers have been removed, and the flowers hybridized, is, perhaps, the best; but large ripe plums collected from the healthiest plants will answer equally well. They may be spread on a dry loft until they become shrivelled, and then mixed with twice their bulk of fine peat or sand, turning the whole over occasionally until the pulp becomes dry and mixed with the peat or sand, in which the seeds will keep good for four or five years. The plan of washing the seed out of the shrivelled plum, and thoroughly drying it, also answers perfectly; and, suspended in bags in a dry situation, it will keep good for a long time, more especially if the slime has not been too much rubbed off in the operation of washing. Care must be taken, however, to keep it from mice, as they are fond of it.—*Ibid.*

*Importation of Seeds, Plants, &c.*—The seeds saved in England, in the current year, are generally to be purchased in London in the months of November and December; consequently, those months are the best for making purchases for exportation.

If *new seeds* are not procurable (which is sometimes the case), the following brief notes of the period for which seeds retain, under proper care, their vegetative powers, may serve as a general guide:—

Cabbage tribe; four years.
Leguminous culinary vegetables, one year.
Beet; ten years. Turnip; four years.
Carrot and parsnip, one year. Radish, two years.
Scorzonera, two years. Onion tribe, two years.
Spinage, four years. Celery, ten years.
Lettuce, three years. Mustard, four years.
Tarragon, four years. Sorrel, seven years.
Parsley, six years. Dill and fennel, five years.
Chervil, six years. Hyssop, six years.
Sweet herbs in general; two years. Rhubarb; one year.
Cucumber, melon, and congeners; ten years.

The following instructions will tend to obviate disappointments in the transmission of seeds, trees, &c., if strictly attended to:—

*Seeds*—for exportation, must be new, perfectly ripened, and well dried, and cleared from all impurities, and to be packed in brown paper or canvass bags, and on board ship to be exposed to a current of air. If the quantity is so large as to require the outer package to be a cask or box, these should be perforated for the *admission of air*, but of a size to exclude vermin. Those boxes or casks are better for being kept on deck, exposed as little to the sun as possible; or if stowed below, it should be as convenient of access to them, as possible, in order to give them an occasional airing on deck. [Seeds have been successfully preserved through long voyages in glass bottles hermetically sealed. Ed.] In long voyages seeds should never be stowed in the hold.

*Bulbs* such as onions, or tubers, as in potatoes, should be carefully dried, and of rare or desirable species, each bulb or tuber should be wrapped up singly, in coarse brown paper, each species in packets by themselves, and placed in close wooden cases, carefully *excluding air;* these packages require less attention than those containing seeds, but they must not be placed deep in the hold of a ship, for fermentation will take place, and a total decay of the bulbs ensue.

*Fruit Trees and other deciduous Trees*, are fit for export on the fall of the leaf, when they are to be taken up, the longer roots shortened, and the heads shortened also, for the convenience of package, and the roots coated with a tenacious clay puddle, of the thickness of cream, and which must be allowed to dry on the roots; each tree should be numbered with a leaden tally, fixed securely to the stem with copper wire; the trees are then to be closely stowed in strong wooden cases, and made tight, to the total exclusion of air. Moss is sometimes used to fill up the spaces between the trees, but is not necessary. Maiden trees are the best for this mode of package, and of forest trees, those with stems one inch thick at least. Upon the arrival of the trees at their destination, after unpacking, their roots must be soaked in water for 24 hours, and after planting they will require shade and water to be applied conformable to the season. On a long passage the packages to be treated as those of the bulbs.

*Evergreen Trees and Shrubs* to be taken up on the immediate periodical maturity of the leaf, and which are, before packing as above, to be cut off from the stems with a sharp instrument; in evergreens, it is better, if possible, to select such as have no leaves on the lower and reserved part of the stem. The pine and fir tribe must be introduced by seed.

N. B. Seeds, bulbs, or plants, must be kept in separate packages, or the premature decay of either will destroy or seriously damage the whole. And the smaller the packages of seeds, the greater will be the certainty of success, as they can be placed in the cabins of ships with less inconvenience, and are more readily carried on deck for occasional airing.—*Southern African Almanac.*

*Durability of the Wood of the Locust-tree.*—The following notes relative to the duration of the locust wood (*Robinia pseud-acacia*), have been made by M. Pepin, Jardin du Roi, Paris:—A number of trees were felled that had been planted from 40 to 45 years; but not more than one in five of those wheelwrights who came to purchase appreciated sufficiently the locust, the others preferring elm. Ultimately the locust was sold to the person who knew its value, at one-third higher price than the elm. The purchaser found that spokes made of the wood in question lasted two sets of felloes, and were likely to answer for a third. Under equal circumstances of wear and tear, spokes made of locust wood were perfectly sound, whilst those of oak required to be replaced. M. Pepin further states that the ends of locust gate-posts which had been in the soil for upwards of 40 years were still not decayed. This sort of wood employed as feet, or supports, for chests made of oak, proved sound, although the oak planks in contact with them had been thrice renewed; but oak supports decayed simultaneously with the oak planks composing the chests. Vine props of locust wood are greatly esteemed.—*Gard. Chron.*

*Plants Diseased in Jamaica.*—There has been a disease among the cocoes for more than two years in this island; to the eye, the leaves and head appear sound, yet on breaking they prove rotten and unfit for planting; of which I hear the negroes complaining, as it forms a principal article of their general provisions. The yam season has not yet commenced, so little can be said of them; but complaints are made that the plantain-trees are beginning to show disease. The mangoes are failing generally in this district, which may partly be accounted for by the drought, as also the bad appearance of the bread-fruit. A gentleman lately pointed out to me several pimento-trees, which have become completely blighted, though I have not heard as yet of such being the case elsewhere. The potato-murrain has been truly designated mysterious, and if such unusual diseases appear in the vegetable kingdom throughout various parts of the globe, it may rationally create alarm that some malignant agency is abroad, probably through the intervention of the atmosphere.—*Ibid.*

*Potatoes Sprouting Again.*—There appears to be an excited and unnatural state of vegetation in the early growths of the potato this year, which before its arrival at maturity forces out its sprouts or buds, upon which fresh tubers are formed, and these in turn emit their embryo shoots, and exhibit the strange phenomenon of a young growing crop keeping pace with its parent stock, or, as I may say, three generations of tubers growing from the same stem. I have by me now a potato nearly full grown, to which are attached by strong shoots four lesser ones, the size of large green walnuts, and a very great number of young ones just formed, no larger than full-grown peas, but all in a most healthy condition, and it is curious to note that in one instance the bud of the parent tuber, before it had perfected its young stem, shot out (so to speak) upon the other side, and there formed a fresh stem or tuber, giving the appearance of two young potatoes hanging by a chain below each other from the parent one. I may add that where this singular feature exhibits itself, I can trace no symptoms of disease.—*Ibid.*

# Editor's Table.

Cultivation of Flax; the Fattening of Cattle with Native Produce; Box-feeding; and Summer-grazing. By John Warnes, Esq. London: Clowes & Sons, Stamford Street. Pp. 321, 8vo. Through the politeness of Mr. Henry Coleman, we have received a copy of this able and well-written work, which, it is to be regretted, cannot be republished in this country entire. For the benefit of our readers, however, who are interested in the flax cause, we propose, hereafter, to publish in our columns, in a condensed form, a series of articles from this treatise, which we hope will receive an attentive perusal.

Vestiges of the Natural History of Creation; with a Sequel by the same Author, and an Appendix containing an Article from the North British Review. New York: Wiley & Putnam, 161 Broadway. Pp. 496, 12mo. Price 75 cents. A general notice of this work having been given at page 70, vol. 4, of the Agriculturist, we are now only called upon to notice the fourth edition, greatly amended by the author, and the "Explanations." That a work, like the present, should have raised a vast number of admirers on one hand, and a host of antagonists on the other, is no more than could be expected. Indeed, that the author is open on all sides to criticism, is abundantly apparent to any one who will examine the work with reference to such points of detail as may be most familiar to himself. It is therefore surprising that the opponents of the peculiar opinions set forth in this remarkable volume, if they are not true, should not have been able to adduce a more powerful array of arguments, founded on facts, against this "nameless author." He contends that no specific creation has ever taken place; but that the Almighty has commanded matter to obey certain laws, which have been in operation from the beginning; that the effect of these self-acting laws has been the production by successive degrees of completeness of our globe and all that it contains; that they are still in operation as they always have been, and that they will continue to act to the end of time.

Admitting this theory to be correct, it would follow that new and more perfect species of plants and animals must have been successively appearing since life was first infused into matter by the will of the Creator; that races in like manner have disappeared, and have been succeeded by others (as geological evidence conclusively proves); that new species are still appearing on the face of the globe; and that, finally, man himself will disappear, to be succeeded by beings more perfect in their nature, and more nearly allied to angels. This, in the opinion of the author of the "Vestiges," is a more philosophical way of accounting for the appearance of new races of living things than to assume that every new form of plants and animals is produced by the special and direct intervention of the Almighty; and, he adds, "in a more reverential way." The weakest point, however, in this theory unfortunately consists in the absence of proof that new species are still appearing on the earth. The author ought to produce evidence of it, if the views he entertains are just, or his theory falls; for, the law of creation which he assumes to rule the universe *must be, and has been, ceaselessly in action from the beginning of time, and can know no pause!*

Lectures to Young Men, on Various Important Subjects. By Henry Ward Beecher, Indianapolis, Ia. *Tenth Thousand*, Salem, Ms. John P. Jewett & Co., and Saxton & Miles, 205 Broadway, New York. Pp. 251, 12mo. Price 62½ cts. This excellent little work is so widely circulated and generally known, that any further encomium of ours would seem useless. All we can say, is, if there are any young men in our highly-favored country who have not read it, let not another week pass over their heads without being fully acquainted with its contents.

A Catalogue of Valuable Standard Works, in the Several Departments of General Literature. New York, Harper and Brothers, 82 Cliff st. pp. 98, 12mo. This new Catalogue, having been constructed with a view to the especial use of persons desirous of forming or enriching their Literary Collections, as well as principals of District Schools and Seminaries of Learning, who may not possess any reliable means of forming a true estimate of any production, commends itself to all such by its novel feature of including bibliographical, explanatory, and critical notices. For want of such aid, a large portion of the reading community remain ignorant of the vast wealth of our accumulated literary stores, an acquaintance with which must ever be regarded as an essential element, both in the progress of social advancement and in individual refinement and happiness. It may be as well to add, that the valuable collection described in this Catalogue combines the two-fold advantages of great economy in price and neatness, often great elegance of typographical execution, in many instances the rates of publication being scarcely one-sixth of those of similar issues in Europe. Copies of this Catalogue may be obtained, free of expense, by application to the Publishers personally, or by letter, post-paid.

A new Universal and Critical Dictionary, of the English Language, by Joseph E. Worcester. The Dictionary of Johnson as corrected and enlarged by Todd, and Walker's Critical Pronouncing Dictionary, have been made, in some degree, the basis of this work; but the words found in those dictionaries have been carefully revised, with regard to their orthography, pronunciation, definition, &c.; and a great part of them, especially such as relate to the arts and sciences, have been defined entirely anew. To the words found in Todd's Johnson, nearly 27,000 words have been added, and for these words authorities are given. The work contains a much improved edition of Walker's key to the pronunciation of Classical and Scripture Proper Names; and to Walker's Vocabulary about 3000 classical names have been added. It also comprises a pronouncing Vocabulary of about 4000 modern geographical names. The several vocabularies are computed to contain upwards of 106,000 words. Boston: Wilkins, Carter and Co. pp. 956, large 8vo. For sale by Saxton & Miles, 205 Broadway, New York. Price $3 50.

Great attention has been bestowed on pronunciation; and with regard to words of various, doubtful, or disputed pronunciation, the authorities for the various modes are exhibited; so that this dictionary will show the reader in what manner these words are pronounced by all the most eminent English Orthoepists. The grammatical forms and inflections of words have been given more fully than ever before in any English Dictionary; and brief critical notes on the orthography, the pronunciation, the grammatical form and construction, and the peculiar, technical, local, provincial and American uses of words are scattered throughout the volume. The design has been to give the greatest quantity of useful matter in the most condensed form, and to specify, as far as practicable, authorities in doubtful and disputed cases.

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Located twelve miles east of the village of Poughkeepsie, on the "Wilkinson Premium Farm," in the Western Valley of Union Vale, Dutchess County.

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The Subscribers have now ready for delivery from their garden at Astoria, L. I., several thousands of the best Strawberry plants in cultivation, and among them a limited stock of a new and unsurpassed American Seedling, called "*North's Victory*," raised by an intelligent practical gardener in the country, and which for size, flavor, and *great product*, is not surpassed by any foreign or domestic variety at present known. We have tested its qualities for two seasons, and assert with confidence, and warrant, as stated. Price $1 per dozen—the plants strongly rooted, three in a pot, which can be divided and planted out immediately, the present moist season being highly favorable to their rooting firmly in the ground.

Also *Hovey's Boston Pine*, $2 per dozen—*Buist's* (of Philadelphia) *Prize*, $2 per dozen—*Princess Alice Maude*, $1 per dozen, very early and fine—*Princess Royal*, $2 per dozen—*British Queen*, $3 per 100—*Myatt's Eliza*, $3 per 100—this last is a superior variety, good bearer, and of exquisite pine flavor—extra fine.—*Prince Albert* (TRUE), $1.50 per dozen—*Victoria*, $2 per 100, one of the very best in cultivation—*Iowa*, $1 per dozen, fine new sort—*Swainstone*, $1 per dozen, with several other sorts, but those named above are among the best. All the above are in pots, strongly rooted, and making runners, a much better mode than hastily taking up and planting out, as the plants having little stability in themselves, and are killed by a single day's exposure to the sun; this is why so many fail to grow.

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A Farm of 325 acres, in Fishkill, Dutchess County. It is one of the choicest sections in the County. The Farm is partly of high limestone land, and with some rich alluvial meadows lying along the Matteawan Creek. The buildings are new and extensive—the fences all good—and the soil in fine condition. Increased production can be obtained from inexhaustible supplies of muck and limestone on the farm. It lies 5 miles from the Hudson River; which with the villages, mills, and factories around, afford near and abundant market.

To a gentleman, the beauty of this part of the country, and the variety of scenery, make it a desirable country residence.

For further particulars address (post-paid) William Van Wyck, Poughkeepsie, Dutchess County, New York.

September, 1846. 2t

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Just received a few of Bryan's celebrated Premium Fanning Mills. Price from $21 to $26.

Also a large supply of Sinclair's, Thorn's, Stevens', and Hovey's Stalk, Straw, and Hay Cutters. Price from $8 to $30.

Corn Shellers of all patterns, from $7 to $50.

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Catalogues can be obtained *gratis*, of the Proprietors by mail, of Parsons & Lawrence, No. 10 Pine Street, or of A. B. Allen, 187 Water Street, New York.

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|---|---|---|
| Five tons and over | 2 | cents per lb. |
| One ton and under five tons | 2 1-8 | do. |
| Half a ton and under one ton | 2 1-4 | do. |
| Under half a ton | 2 1-2 | do. |

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## A BOOK FOR FARMERS.

A System of Book-keeping, as applied in practice to the business of Jobbing Merchants, City Retail Merchants and Country Merchants, with a concise plan of accounts, for all persons, in one book, suited to Mechanics, Farmers, and Professional men; being a self-instructor, and for the use of schools. By James Arlington Bennett, LL.D., author of the American Practical System of Book-keeping, by double entry, &c

SAXTON & MILES, Publishers,
No. 205 Broadway, New York.

## REVIEW OF THE MARKET.

### PRICES CURRENT IN NEW YORK, SEPTEMBER 23, 1846.

| | | | | |
|---|---|---|---|---|
| ASHES, Pots, | per 100 lbs. | $3 75 | to | $3 81 |
| Pearls, | do. | 4 06 | " | 4 12 |
| BALE ROPE, | lb. | 5 | " | 7 |
| BARK, Quercitron, | ton, | 26 00 | " | 26 50 |
| BEANS, White, | bush. | 1 12 | " | 1 25 |
| BEESWAX, Am. Yellow, | lb. | 26 | " | 30 |
| BOLT ROPE, | do. | 12 | " | 13 |
| BONES, ground, | bush. | 40 | " | 55 |
| BRISTLES, American, | lb. | 25 | " | 65 |
| BUTTER, Table, | do. | 16 | " | 25 |
| Shipping, | do. | 9 | " | 13 |
| CANDLES, Mould, Tallow, | do. | 9 | " | 11 |
| Sperm, | do. | 25 | " | 38 |
| Stearic, | do. | 20 | " | 25 |
| CHEESE, | do. | 5 | " | 10 |
| COAL, Anthracite, | 2000 lbs. | 5 00 | " | 6 00 |
| CORDAGE, American, | lb. | 11 | " | 12 |
| COTTON, | do. | 7 | " | 12 |
| COTTON BAGGING, Amer. hemp, | yard, | 13 | " | 14 |
| Kentucky, | do. | 11 | " | 12 |
| FEATHERS, | lb. | 25 | " | 34 |
| FLAX, American, | do. | 7 | " | 8 |
| FLOUR, Northern and Western, | bbl. | 4 75 | " | 5 00 |
| Fancy, | do. | 5 00 | " | 6 00 |
| Southern, | do. | 4 69 | " | 4 88 |
| Richmond City Mills, | do. | 6 00 | " | 6 25 |
| Rye, | do. | 3 50 | " | 3 75 |
| GRAIN—Wheat, Western, | bush. | 1 00 | " | 1 05 |
| Southern | do. | 90 | " | 1 00 |
| Rye, | do. | 75 | " | 80 |
| Corn, Northern, | do. | 73 | " | 75 |
| Southern, | do. | 71 | " | 72 |
| Barley, | do. | 55 | " | 66 |
| Oats, Northern, | do. | 34 | " | 35 |
| Southern, | do. | 30 | " | 33 |
| GUANO, | do. | 2 00 | " | 3 00 |
| HAY, in bales, | 100 lbs. | 35 | " | 45 |
| HEMP, Russia, clean, | ton. | 200 00 | " | 210 00 |
| American, water-rotted, | do. | 105 00 | " | 185 00 |
| American, dew-rotted, | do. | 75 00 | " | 125 00 |
| HIDES, Dry Southern, | do. | 7 | " | 8½ |
| HOPS, | lb. | 12 | " | 18 |
| HORNS, | 100. | 1 00 | " | 7 00 |
| LEAD, pig, | do. | 3 88 | " | 4 00 |
| Sheet and bar, | lb. | 4 | " | 5 |
| MEAL, Corn, | bbl. | 3 60 | " | 3 75 |
| Corn, | hhd. | 14 75 | " | 15 50 |
| MOLASSES, New Orleans, | gal. | 28 | " | 32 |
| MUSTARD, American, | lb. | 16 | " | 31 |
| NAVAL STORES—Tar, | bbl. | 2 00 | " | 2 25 |
| Pitch, | do | 1 00 | " | 1 06 |
| Rosin, | do. | 55 | " | 65 |
| Turpentine, | do. | 2 75 | " | 3 00 |
| Spirits Turpentine, Southern, | gal. | 38 | " | 40 |
| OIL, Linseed, American, | do. | 60 | " | 63 |
| Castor, | do. | 55 | " | 70 |
| Lard, | do. | 58 | " | 60 |
| OIL CAKE, | 100 lbs. | 1 25 | " | 1 50 |
| PEAS, Field, | bush. | 1 25 | " | 1 50 |
| PLASTER OF PARIS, | ton. | 2 25 | " | 3 00 |
| Ground, in bbls., | of 300 lbs. | 1 12 | " | 1 25 |
| PROVISIONS—Beef, Mess, | bbl. | 6 25 | " | 9 00 |
| Prime, | do. | 4 25 | " | 5 50 |
| Smoked, | lb. | 6 | " | 9 |
| Rounds, in pickle, | do. | 4 | " | 6 |
| Pork, Mess, | bbl. | 9 50 | " | 12 00 |
| Prime, | do. | 7 88 | " | 9 00 |
| Lard, | lb. | 5½ | " | 7 |
| Bacon sides, Smoked, | do. | 3 | " | 4 |
| In pickle, | do. | 3 | " | 4 |
| Hams, Smoked, | do. | 6 | " | 10 |
| Pickled, | do. | 4 | " | 7 |
| Shoulders, Smoked, | do | 5 | " | 6 |
| Pickled, | do. | 4½ | " | 5 |
| RICE, | 100 lbs. | 3 00 | " | 4 00 |
| SALT, | sack, | 1 28 | " | 1 38 |
| Common, | bush. | 20 | " | 35 |
| SEEDS—Clover, | lb. | 6 | " | 9 |
| Timothy, | 7 bush. | 11 00 | " | 20 00 |
| Flax, clean, | do. | 10 00 | " | 11 00 |
| rough, | do. | 8 50 | " | 9 00 |
| SODA, Ash, cont'g 80 per cent. soda, | lb. | 3 | " | 3 |
| Sulphate Soda, ground, | do. | 1 | " | — |
| SUGAR, New Orleans, | do. | 6 | " | 8 |
| SUMAC, American, | ton, | 35 00 | " | 37 50 |
| TALLOW, | lb. | 6½ | " | 7½ |
| TOBACCO, | do. | 2 | " | 7 |
| WHISKEY, American, | gal. | 25 | " | 28 |
| WOOLS, Saxony, | lb. | 35 | " | 60 |
| Merino., | do. | 25 | " | 30 |
| Half blood, | do. | 20 | " | 25 |
| Common do | | 18 | " | 20 |

**Remarks.**—Our readers will see that considerable advances have been made the past month in the prices of Cotton, Flour, and Grain of all kinds, also in Provisions, Naval Stores, and some other articles. Corn has risen fully 20 cents per bushel, thus realizing more than we anticipated when we wrote the article early this month, "Prices of Produce," page 301 of this No. Hay is the only article which has fallen. In consequence of the great destruction of the potato crop in Europe, and rather a short grain crop on some parts of the Continent being ascertained now, beyond a doubt, Great Britain will require large supplies from this country the coming year; prices, therefore, are likely to continue as now quoted, during the season; but we must warn the farmer against anticipations of a much greater advance. Our advice is to sell now rather than hold on. Wool is being exported in considerable quantities to England—no prospect of a rise in price, however.

*Money* is abundant from 5 to 7 per cent.

*The Weather* has been generally dry and fine the past month in this vicinity. If equally so at the South, it will prove highly advantageous to the crops there. Cotton is turning out fairly in the Carolinas and Georgia; in many districts of the other States, it has suffered dreadfully from the wet season, and the army and boll-worm. It will be decidedly a short crop this year, and prices must consequently advance somewhat more. Of the other Southern crops we hear fair accounts. The potato rot at the North and West has been more destructive this year than it was last, which has considerably enhanced its price among us. Corn comes in very abundantly, and was never a better crop.

To **Correspondents.**—Communications have been received from M. W. Philips, L. T. Talbot, Reviewer, and E. E. M.

**Acknowledgments.**—List of Premiums of the Exhibition and Fair of the Hartford County Agricultural Society, to be held at Hartford, Ct., during the ten days preceding the 3d of the present month; also the American Journal of Science and Arts for September, edited by Professors Silliman.

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# AMERICAN AGRICULTURIST.

*Agriculture is the most healthful, the most useful, and the most noble employment of man.*—Washington.

VOL. V. NEW YORK, NOVEMBER, 1846. NO. XI.

A. B. Allen, Editor. Saxton & Miles, Publishers, 205 Broadway.

## TO EXCHANGE PAPERS.

*Please to take Notice.*—Ever since we have conducted this journal, we have exchanged freely with all respectable papers desiring it, and shall be happy to continue to do so, wherever we are fairly dealt by. We regret, however, to say, that in several instances this is not the case, and that a few papers are in the habit of making up their agricultural department almost entirely from ours, without giving the least credit whatever, and some of them have the unblushing impudence to put such matter in leaded type, under the editorial head. We have frequently, privately and otherwise, remonstrated against this injustice—but to no effect; we now give such papers warning, that if they continue to quote from us without credit, we shall stop the exchange. Another class of exchanges when they copy from us, merely add at foot, " Am. Ag." We think they ought to give the title of this journal in full, or nearly so—*Amer. Agriculturist.* A few other papers are in the habit of reprinting our periodical almost entirely, as fast as it appears. We can only say to such, that this journal costs us a good deal of hard labor to edit it, and several thousand dollars a year money paid out to printers and paper-makers, and the course they are thus pursuing is injurious to our interests. We therefore add, that while it gives us pleasure to see occasional articles copied from our periodical, we must object to so faithful a reprint, and warn those doing it, if they persist, we shall be under the necessity hereafter of copyrighting every number of the Agriculturist as fast as it appears.

◆

**Fruit-Trees for the South.**—Persons living South where they will require fruit-trees from the North, to be planted out in January or February, are reminded that it is important to make their orders before the ground closes, as they cannot afterwards be conveniently taken up.

◆

## AGRICULTURAL WAREHOUSE IN NEW ORLEANS.

Mr. R. L. Allen, whose name is familiar to the readers of the Agriculturist, will leave here early during the present month, for the purpose of establishing an Agricultural Warehouse in New Orleans. Such an enterprise seems to be demanded, if we can judge correctly from the numerous solicitations we have received on this subject from our Southern friends. They can order their general supplies of staple agricultural implements from us here, without material inconvenience; but to fill up their intermediate and occasional demands, and especially in supplying themselves with new and recently improved implements, &c., they need an establishment nearer home. To accommodate this demand is the object of the proposed undertaking, which, we doubt not, will be fully sustained by our friends and the enterprising planters generally at the South.

Mr. Allen will travel through the Atlantic and Gulf states, and both in New Orleans and on his route, will receive orders for Messrs. Ruggles, Nourse & Mason, of Boston and Worcester, Mass., and for our agricultural establishment, 187 Water Street, New York; and also receive subscriptions and establish agents for the American Agriculturist, of which he will be a regular correspondent from the South. All letters or orders may be addressed to him to our care, till the 15th of this month, after that, to New Orleans. We commend him to the attention of our friends, and anything they may do to further the objects of his tour, and establishment at New Orleans, will be gratefully reciprocated by us in this city.

## AMERICAN AGRICULTURAL ASSOCIATION.

THIS Society held their first meeting for the season at the Historical Society's Rooms, at the New York University, on the 7th of last month. The session was chiefly occupied in framing a code of by-laws under their late act of incorporation, which were adopted and ordered to be embodied with the list of members in the first number of the Transactions of the Association shortly to be published. The next meeting will be held at the usual place, on Wednesday, the 4th inst., at 7 o'clock in the evening.

## NINETEENTH ANNUAL SHOW AND FAIR OF THE AMERICAN INSTITUTE.

THIS commenced on the 5th of last month, and continued till the 23d. A few weeks preceding, all the buildings at Niblo's Garden, where the show is usually held, took fire and burned to the ground. This at first seemed a heavy calamity to the Institute, as it was supposed they would be unable to find accommodation in the city for their show. But fortunately for the Society, they at length secured Castle Garden, on the Battery, which proves far superior to all places, in its accommodations, heretofore occupied for their fairs. Indeed, if the building had been erected expressly for the purpose, it could not have been better suited. The bridge, 230 feet in length, leading from the Battery to the Castle, was roofed over, and devoted to agricultural implements, carriages, heavy machinery, &c. The Castle is about 200 ft. in diameter. The area was occupied with woollen and cotton fabrics, leather fabrics, cutlery, glass and earthenware, jewelry, and other fancy articles; the steam engine, and some heavy machinery operated by it, were arranged on the outward circle; while the galleries all around were adorned with paintings, Daguerreotypes, fancy work, and the horticultural display of flowers, fruits, and vegetables. The *coup d'œil* was magnificent, and the whole arrangement gave great satisfaction. The number of visitors instead of being less, as was apprehended in consequence of holding the fair at this extreme end of the city, proved much greater than ever. Not less than 200,000 are supposed to have been admitted during the exhibition.

As we are bound every year to record the show of the Institute, we mention such things only as are particularly new to us in an agricultural point of view. In the way of plows we find nothing more to notice, than the recently invented dial clevis of Ruggles, Nourse & Mason, which enables the plowman to gauge his implement to a quarter of an inch, if he wishes to be so exact, and adjust the plow also to run close alongside of a fence, or ditch, or keep the off horse on the hard surface when plowing wet lands, instead of being obliged to walk in the open, miry furrow, so very hard and wearisome to him. Their self-sharpening plow also, with the application of the centre draft, is a great improvement. The points in these are of cast steel, and wear and keep sharp for years. A curious plow for cutting up the roots of newly cleared land, we think very highly of. It will easily cut off roots three inches in diameter, as it moves through the ground. A new hand corn-mill, far superior to Swift's late invention, was exhibited. Mr. Fitzgerald has made some improvements in his burr-mill. We also noticed several other good implements, among which we mention Gaylord's concave and convex hay and straw-cutter; B. Langdon's corn-stalk, hay and straw cutter; Jones & Smith's seed and plaster-sower; E. Luken's washing machine, efficient and easily worked. In the way of harnesses we noticed a new horse-collar, which, instead of being separate, consisted of only one piece. This is particularly well calculated for Southern use, among careless negroes. It is rarely out of repair, and the hame-string never gets lost, for, in this collar, there is none to lose.

The horticultural exhibition was not quite so good as usual. Several fine specimens of dew and water-rotted hemp, from Hon. Henry Clay and others; splendid ears of corn, of various kinds, some on stalks 15 feet high; large beets; mammoth pumpkins from A. Miller, Newburgh, A. Silkworth, Staten Island, and others; bell-neck pumpkins from J. B. Colyer, L. Island, and Pelham farm; magnificent golden crook-neck squash, from R. L. Pell; four immense striped squashes, from Mr. Beekman, also, large yellow, sweet potatoes, &c, &c.

The plowing and spading matches came off on the 9th of October, at Flushing, and were similar in their character to those the Institute has got up, with one exception, for the last eighteen years. We consider them a complete farce, and unattended with the slightest improvement whatever. Nor do they establish a single important principle.

The cattle show came off on the 14th and 15th of October, and on the whole was a prime one. There were a large number of first rate working cattle exhibited, principally from Connecticut; some good Durhams; a beautiful display of Devons, by Mr. Colt, of Patterson, and choice Ayshires and Alderneys. Mr. Bathgate showed a very fine cow, and a great milker, a cross between the Durham and Ayrshire. The genuine natives were fewer than ever, being rather shy to stand up alongside of the improved breeds. One most superb fat ox was exhibited. He was bred by Mr. Le Roy, of Livingston County, and fed and shown by Mr. Olyphant. He is a cross of the Dutch and Durham. He weighs a trifle over 2,700 lbs. He carried a superb brisket, and in other points was quite superior. The match horses were superb, and in considerable force. As for sheep, the show was rather slim. A curious-looking animal was on the ground, a cross between the Merino and long-wool. His fleece was 5 or 6 years old, and along the sides measured 22 inches in length. It was most extraordinary. The swine were a good show. One famous porker present weighed 1,080 lbs., and some of his progeny there bid fair to rival him in dimensions. If any one wants big hogs, now let them speak. They can have choice pigs for $25 to $30 per pair.

Lectures, speeches, music, fire-works, and other entertainments followed each other in regular succession, nearly every evening during the fair, and on the whole the thing passed off with increased *éclat*.

## NATIONAL CONVENTION OF FARMERS, GARDENERS, AND SILK-CULTURISTS.

THIS branch of the American Institute held its first meeting, agreeably to the announcement in our last number, at Mechanics' Hall, on Monday, the 12th of last month, and continued in session until the Friday following. General H. A. S. Dearborn, of Massachusetts, was chosen President; John Ogden, of New Jersey, and A. P. Byram, of Kentucky, Vice Presidents; and D. J. Browne, of New York, and Thompson C. Munn, of New Jersey, Secretaries.

The Convention was opened by an eloquent address by the President, setting forth the advantages of agriculture, and its kindred pursuits, with many interesting facts connected with science, and the benefits derived from our agricultural institutions. The principal topics for discussion during the session were as follows:—

*Washington's Department of Agriculture.*—Mr. Meigs moved that a committee of thirteen be appointed for the purpose of taking into consideration the establishment of "Washington's Agricultural Department of Government," and the following gentlemen were chosen:—Henry Meigs, of New York; A. P. Byram, of Brandenburgh, Ky.; Moses B. Coe, of Newark, N. J.; Martin Ellsworth, of Windsor, Ct.; Judge Tiffany, of Montgomery Co., N. Y.; James Darrach, of Orange Co., N. Y.; William J. Gilchrist, of Saratoga Co. N. Y.; Peter H. Brink, of Saugerties, N. Y.; Jacob D. Van Winkle, of Hudson Co., N. Y.; Jenison G. Ward, of Fulton Co., N. Y.; Dr. L. A. Smith, of Essex Co., N. J.; Gen. H. A. S. Dearborn, of Roxbury, Mass.; and Dr. R. T. Underhill, of New York.

Mr. Meigs, Chairman of said Committee, subsequently presented a Report, accompanied by a Circular addressed to County Agricultural Societies, urging them to memorialize Congress to establish such a Department. The last words of WASHINGTON on this subject were as follows:—

> "It will not be doubted that, with reference either to individual or national welfare, agriculture is of primary importance. In proportion as nations advance in population and other circumstances of maturity, this truth becomes more apparent, and renders the cultivation of the soil more and more an object of public patronage. Institutions for promoting it grow up, supported by the public purse; and to what object can it be dedicated with greater propriety? Among the means which have been employed to this end none have been attended with greater success than the establishments of boards, composed of proper characters, charged with collecting and diffusing information, and enabled by premiums and small pecuniary aids to encourage and assist a spirit of discovery and improvement. This species of establishment contributes doubly to the increase of improvement, by stimulating to enterprise and experiment, and by drawing to a common centre the results, everywhere, of individual skill and observation, and spreading them thence over the whole nation."

*Experimental Garden in Florida.*—Mr. Samuel B. Parsons offered a Resolution on the "Expediency of establishing an Experimental Garden in Florida for the Acclimatization of Foreign Trees and Plants," which was referred to a committee consisting of the following persons:—General H. A. S. Dearborn, of Massachusetts; Samuel B. Parsons, and Dr. William W. Valk, of Flushing, L. I.; Rev. R. Randolph Gurley, of Washington, D. C.; and Robert L. Pell, of New York.

General Dearborn, in behalf of said Committee, read a very able report, pointing out the immense advantages which may accrue to the whole Union, from the introduction and culture of the plants of the tropics and of the temperate zones, not indigenous to the United States, that may be rendered subservient to the interests of the mechanical and manufacturing industry of the country. It was contended that the establishment of such a garden would increase the variety and value of our exports, as well as afford aliment, and augment the number of species of fruit, forest, and ornamental trees or shrubs, and herbaceous plants.

The favorable disposition of Congress to found a Botanic Garden in Florida, has been emphatically illustrated, by the liberal grant of a large tract of land to Doctor Perine, several years since; but that intelligent, adventurous, and zealous naturalist, having been unfortunately slain by the savages, during the Seminole war, just as he had commenced the transplantation of numerous tropical plants, which he had procured in Central America and Mexico, the great object of the government, in affording assistance to that patriotic man, was, thus, suddenly frustrated; but it is to be confidently presumed, that an equally liberal patronage will be again extended, and in such an efficient manner, as to render the realization of the important projects, for the acclimatization of foreign plants, as certain as it is desirable. The Report ended in recommending the following resolutions, which were adopted:—

*Resolved*, That the American Institute be requested to memorialize Congress, to adopt such measures, as may be deemed most expedient, for the establishment of an *Experimental Botanical Garden, in Florida, for the Acclimatization of Tropical and other Foreign Trees and Plants*, and for the distribution among the several States, in such a manner as will best subserve the interests of each.

*Resolved*, That the American Institute be also requested to correspond with the Agricultural, Horticultural, and Botanical Societies, throughout the United States, on this subject, and ask their generous co-operation, by transmitting memorials to Congress, of a like import to that, designated in the foregoing resolution.

General Mercer, on invitation from the chair, rose, and said he cheerfully responded to the request made on the part of the Convention, and proceeded to state that he had resided and travelled six years in Florida, and could speak with experience on the soil, climate, and capabilities of that country. It has a soil, he said, varying from the lightest sand of the most sterile kind, to the richest alluvial; and from its evergreen forests, which change but little in their temperature, from summer to winter, and the Gulf stream that runs by, hugging, as it were, almost its entire coast, its climate is less variable than that of any other portion of the United States. The orange and the delicate lemon are seldom injured by the frost. The olive and the soft-shelled almond arrive at perfection there, but the apple, the pear, and the Spanish chestnut not, on account of the continued heat. He considered that the project of an experimental garden in Florida, was practicable, and would be attended with beneficial results—that trees and plants of the choicest, and of the most useful kinds, could gradually be acclimated there, from every region of the globe. But as to receiving aid from government, he thought that in the present temper of Congress, nothing of the kind could be hoped for—yet they might be disposed to grant a tract of land. It was his belief that the project could be carried into effect by private enterprise, and for one he was willing to contribute to its support. The sum necessary to commence operations, he said, need not exceed $1,000 per annum.

*Supposed Effects of the Gases of Brick-kilns on Vegetation.*—Dr. Underhill described what he conceived to be the "Noxious Effects of the Gases of Brick-kilns on Fruits and Vegetation," which led to the appointment of a committee to report on the nature of said effects, if they exist, and to institute inquiries as to a remedy, &c., whereupon the following were chosen:—Martin Ellsworth, of Connecticut; Dr. R. T. Underhill, Professor James Renwiek, and Dr. J. R. Chilton, of New York; Peter H. Brink, of Saugerties, N Y.; James Darrach, of Orange Co., N. Y.; and Stephen Haight.

*Progress of Silk-Culture in the United States.*—General Dearborn suggested the expediency of appointing a committee to report on the "Culture of Silk" in this country, which was adopted, and the following gentlemen were chosen:—A. C. Van Epps, of New York; J. B. Hyde, of Long Island; J. M. Summy, of Lancaster, Pa.; and H. P. Byram, of Kentucky.

Mr. Van Epps, Chairman of said committee, read a report on this subject, stating that it is a matter of regret that a branch of industry so evidently and intimately connected with our interests as a nation, and which, at the same time, has been so fully tested in every latitude of our country, should advance so slowly, and elicit the energies of so few of our people. The committee go on further to state, emphatically, that they believe no other country or people are so well calculated to perfect the whole silk business, as our own, and that the chief obstacles are altogether artificial. They intimate that unwise legislation on the part of the general government, and the want of suitable encouragement from State authorities, are the chief reasons why this branch of industry has never been more extensively prosecuted. In accordance with these views, they begged leave to adopt the following Resolutions:—

*Resolved,* That we recommend the careful preservation and *cultivation* of the Mulberry Trees now among us, and to increase them to a sufficient extent to supply a constantly increasing demand; and that we urge upon every farmer the planting of at least *one acre* of trees, from the foliage of which one or more crops of worms may annually be fed, without interfering with the ordinary pursuits of the farm.

*Resolved,* That we view the change recently made by Congress in the duties on imported silks, as altogether misjudged, and calculated directly to throw additional embarrassments in our way which we are altogether unprepared to surmount; and that unless a more judicious policy be adopted by the next Congress, the business generally must be immeasurably retarded, and in some of its branches utterly destroyed.

*Resolved,* That we consider the practice of family reeling productive of irregular and imperfect raw silk, and thus greatly interfering with the after uses to which such silks may be devoted. Hence, we recommend the establishment of a regular filature system, furnishing a cash market for all the cocoons produced, as the only effectual remedy for this evil, and intimately and inseparably connected with the ultimate success of the enterprise

*Resolved,* That we most earnestly urge upon the approaching Congress the importance of so correcting the duties upon both raw and manufactured silks, as to give such protection for us as to place us beyond the *possibility* of injury from foreign competition.

*Resolved,* That the establishment by Congress of a national Filature Nursery Plantation and Cocoonery, in or near the District of Columbia, under the superintendence of a competent and experienced person, where individuals can obtain all the information necessary for prosecuting the *reeling* of silk, the cultivation of the mulberry-tree, and the successful nurture of the silk-worm, would be a measure of the utmost importance to every section of the Union, and calculated to advance the enterprise more than any other single instrumentality can do.

*Resolved,* That we believe it the duty of the Legislatures of the several States, each to offer immediately a *liberal bounty* for the production of cocoons, and that we regret that the State of New York should have refused, in opposition to the memorials of a considerable portion of the people, to *renew* a bounty which has been fostering the business for six years past.

*Resolved,* That we recommend to State and County Agricultural Colleges and Institutes, the importance of connecting with their operations a department for the culture of silk, under the direction of those qualified to give instructions on this branch of industry.

*Culture of the Grape.*—It was moved by Dr. Underhill that a committee of three be appointed to report on the "Culture of the Native Grape in Vineyards for Wine, and for the Table," which was adopted, and Dr. R. T. Underhill, Charles Henry Hall, and Henry Meigs, of New York, were chosen.

Dr. Underhill, as chairman of said Committee, offered a report in which was embodied the following resolution:—*Resolved,* That the culture of the Native Grape is a subject of primary importance, and that it be recommended to all the agricultural associations in the Union to make experiments with the different kinds growing in their vicinity, in order to ascertain their properties, to test their qualities, procure seedlings from them, and by high cultivation to secure such varieties as will lay the foundation for successful culture.

Mr. Charles Henry Hall said that he could not concur in the opinion expressed in the report of Dr. Underhill that the foreign grape is totally unsuited to the climate of the United States; for, it was his belief that, with proper culture, in chosen localities, it could be brought to perfection. He could not speak positively, however, on this point, but expressed a desire that the Chairman should give what information he possessed in relation to the subject, upon which General Dearborn rose and said that, in early life, he attempted to cultivate the European grape in the open air, in Massachusetts, by high manuring, pruning, smoking, &c., but could not succeed in obtaining good fruit. He stated that, when his father was Minister, near Lisbon, he caused a selection of some cuttings of the choicest varieties of grapes to be made there, by an experienced vine-dresser, with minute directions for their culture and management, which were sent home and planted in his garden near Boston, and after nurturing them with seven years' excessive care, no grapes were produced, and at last he dug them up and threw them away. From personal observation, and long intercourse with persons from different parts of the Union, he unequivocally expressed it as his opinion that the foreign grape will not thrive in this country in the open air.

*Adjournment.*—Mr. Robert Lawrence of New York, moved that this Convention be adjourned to the next Annual Fair of the American Institute, at such time and place as the managers may designate, which was adopted.

## SHOW OF THE QUEENS COUNTY AGRICULTURAL SOCIETY.

This was held on the 9th of last month, at Flushing, and certainly was one of the most agreeable meetings we ever attended. It was made the more attractive by the plowing and spading matches of the American Institute, being arranged to come off at the same time, near the show-ground. A delightful hour's sail up the East River into Flushing Bay, brought us to the town, where we found thousands of ladies and gentlemen already assembled there, and enjoying the festivities of the occasion.

The show-ground was located in the heart of the village, near the Friends' Meeting House, and was ample and commodious. It was well fenced in, and all around the different kinds of stock were arranged, and showed to great advantage. In the centre of the ground a magnificent tent of 80 to 100 feet diameter was pitched, and within this was arranged a great variety of the flowers, fruits, vegetables, and seeds, of the season. In the centre of the tent stood the Temple of Flora. This was really one of the most beautiful and tastefully executed things we ever saw. It was the handiwork of the fair ladies of Flushing, and did them great credit. Thousands of choice flowers were culled to adorn the Temple, principally from the gardens of Messrs. Winter & Co. But Flushing is a *town of flowers*, and many of the private gardens contributed to form the Temple, and the pretty pyramids and bouquets which surrounded it. We doubt whether this show of flowers has ever been excelled in the United States. The dahlias particularly were very abundant and perfect. Of the fruits, Messrs. Prince & Co. made the largest display. Mr. Wm. H. Schermerhorn contributed a plate of new seedling peaches, very large and fine. They much resembled the Late Crawford, but are less elongated in shape. He has given them the name of the *Rose Hill*, from his residence, where they originated. We are not much of a connoisseur in domestic fabrics, but could not help noticing a curious counterpane, made by Mrs. Jesse Brown, of 6,722 pieces! and a beautiful knit bed-spread, by the ingenious Mrs. Jander. Other curiosities there were in abundance, but we have not space to mention them. Among the stock present we counted 37 yoke of superb working oxen, made up, we believe, from the town of Flushing alone. This was just the same number as was exhibited in Auburn, at the late State Show, and they would compare favorably with them in appearance. The other animals present were respectable. Perhaps the most attractive after the big team, were a pair of beautiful Shetland ponies in harness, about the size of stout Newfoundland dogs.

Upon the whole the Queens County Show went off well. It was attended by several thousands of both sexes, and seemed to give general satisfaction. This Society is one of the most spirited and flourishing in the State. We are under obligations to its gentlemanly officers for their polite attention to us while on the ground, and close our brief notice, by wishing them well through their arduous duties, and as good a show next year.

## THE PROPER TIME FOR CUTTING TIMBER.

Nine-tenths of the community think winter the time for this purpose, but the reason assigned, "that the sap is then in the roots," shows its futility, as it is evident to the most superficial observer that there is nearly the same quantity of sap in the tree at all seasons. It is less active in winter, and like all other moisture, is congealed during the coldest weather; yet when not absolutely frozen, circulation is never entirely stopped in the living tree. Reason or philosophy would seem to indicate that the period of the maturity of the leaf, or from the last of June to the first of November, is the season for cutting timber in its perfection. Certain it is, that we have numerous examples of timber cut within this period, which has exhibited a durability twice or three times as great as that cut in winter, when placed under precisely the same circumstances. After it is felled, it should at once be peeled, drawn from the woods, and elevated from the ground to facilitate drying; and if it is intended to be used under cover, the sooner it is put there the better. Wood designed for fuel, will spend much better when cut as above mentioned and immediately housed, but as this is generally inconvenient from the labor of the farm being then required for the harvesting of the crops, it may be more economical to cut it whenever there is most leisure.—*Allen's American Agriculture.*

Travelling Agency.—Mr. J. Vanderbilt, Jr., is now travelling in the Southern States, as agent for our Agricultural Warehouse in this city; also for the American Agriculturist. All moneys paid to him on our account we guarantee shall be properly applied, and all orders given through him will be faithfully and promptly executed by us.

## THE ALPACA.—No. 6.

*Introduction of the Alpaca into Europe.*—The greatest number of llamas that were ever carried to Europe at one time, was a herd that arrived at Cadiz, in 1808. It originally consisted of thirty-six individuals, including the sorts called llamas, alpacas, and vicuñas. They were brought from Lima, in Peru, and Concepcion, in Chili, to Buenos Ayres, by slow journeys of two or three leagues. They were fed on the road with potatoes, maize, and hay; but when their supply of potatoes was exhausted they became so constipated, that it was necessary to afford them medical relief. Eleven only of the number arrived at Cadiz, of which two died there. These animals were carried to Europe as a present from Godoy (Prince of Peace), to the Empress Josephine; but they arrived just at the period of his disgrace, at the commencement of the Spanish Revolution; and the populace, in hatred of their late minister, were about to throw the llamas into the sea. The governor of Cadiz, however, rescued them; and they were given in charge to an eminent Spaniard, Don Francisco de Theran, who had a fine zoological garden at San Lucar de Barraméda, in Andalusia. The French armies having subsequently traversed this province, Marshal Soult took the llamas under his care; and Monsieur Bory de Saint Vincent, a distinguished French naturalist, who accompanied the army, studied their habits with great attention, and made some drawings of them, which were afterwards lost at the battle of Vittoria. He paid particular attention to the quality of their wool, and transmitted some specimens of each sort to the Academy of Sciences, at Paris. It appears from the report of M. de Saint Vincent and Don Francisco de Theran, that the fleece of the *alpa-vigonia* (the cross between the vicuña and the alpaca) is much longer and six times heavier, than that of any other variety.

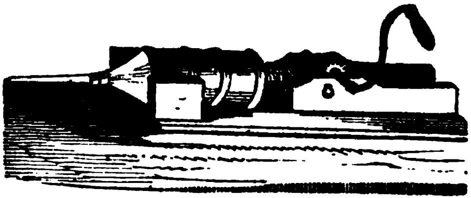
The first account of this interesting race of quadrupeds as having been introduced into Britain, was that of the beautiful white and brown female alpaca exhibited by Mr. Cross, in the Surrey Zoological Gardens, from 1810 to 1816, and is noticed and figured in page 217 of the present volume. In a letter to Mr. Walton, dated May 2d, 1843, Mr. Cross gives the result of his experience in regard to this animal in the following words:—

"As you are desirous of having the result of my observations relative to the alpacas which have fallen under my notice, I beg to say that the first one brought to this country came into my possession after being for two years in that of Mr. De Tastet, of Halshead, in Essex, who exchanged it with — Tharpe, Esq., of Chippenham Park, near Newmarket, for a pair of magnificent coach-horses. The latter gentleman kept it for about two years, in the hope that one might arrive from Peru of a different sex, as he was anxious to breed from them in consequence of the fineness of their wool. Disappointed in his object, I bought it of him for one hundred guineas, and exhibited it about six years; consequently it must have been eleven or twelve years old when it died.

"It was fonder of browsing than grazing. One remarkable fact I cannot help mentioning, and that is, that it never drank anything during the whole time I had it, though repeatedly offered drink. I fed it upon bran, oats, carrots, and hay; occasionally in the season with a little green tares. Its wool was about eighteen inches long, mixed with some trifling portions of hair. It was remarkably tame, and I may say affectionate. I have since had several others of various colors, some quite black, and others piebald, &c. Having had them so often, I let them take their chance in the stalls, giving them the opportunity of running into a paddock, and they always did well. The last pair I had were perfectly black, and I sold them to Mr. Advenant, who immediately took them over to the King of Bavaria. The late King of Wirtemburg, and other continental monarchs, also had some of me. I think they might be introduced into some parts of this country with great advantage, particularly in the hilly parts of Scotland and Ireland, where they could have an opportunity of browsing as well as grazing. Occasionally they will breed with the llama; and a more elegant animal than the offspring cannot be imagined, but whether the latter will breed again, I cannot say."

About the time Mr. Cross was exhibiting his interesting specimen, the late Duchess of York had four or five llama and alpaca pets at Oatlands, where she took great delight in watching their sportive antics on the lawn, or contemplating their intelligent and expressive countenances, greatly resembling that of the gazelle. They ran the chance of all exotics, whether animal or vegetable; left to the care of servants who, when the master and the mistress are away, usually treat them as mere matters of course, and often with a strong feeling of prejudice. When the Duchess died, these pets necessarily were dispersed; and, in all probability, at that early period breeding with them was deemed an impracticability. They, however, lived long enough at Oatlands to render it apparent that they are of a hardy race, although the old and plain-spoken park-keeper has more than once been heard to say, that, while under his charge, they were not in their proper element, the grass being too *firm*—meaning too rich and good.

## SAUSAGE STUFFER.



Sausage Stuffer.—Fig. 78.

This ingenious contrivance will save the labor of eight or ten persons in filling sausages, and the work is performed with the greatest facility, and in the most perfect manner. To those who have only a few sausages to make, this machine is certainly worthy of attention. Price $4.50 to $5.

Do not forget to arrange your fall and winter's work so as to send your boys to school Be kind to your flocks, and remember the poor.

## BRITISH AND IRISH FLAX CULTURE.—No. 1.

*History.*—The cultivation of flax has engaged the attention of mankind from the earliest ages, in almost every part of the globe; and has continued, to the present time, a source of profit to the cultivator, and of employment to the people. Several lively allusions occur in the Sacred Scriptures. "The flax and the barley was smitten; for the barley was in the ear, and the flax was bolled. But the wheat and the rye were not smitten, for they were not grown up." From this simple statement we discover the accuracy of the Mosaic account, for in England also flax ripens before wheat. Rahab hid the spies with the stalks of flax that were laid in order on the roof of her house. Now as a nice regard is paid to the order in which flax is laid to dry at the present time preparatory to scutching and spinning, doubtless hers was placed upon the roof for similar purposes. Many cottiers in Ireland grow small patches of flax in their gardens, which they prepare and spin for their own private uses.

Solomon had horses brought out of Egypt, and linen yarn; the king's merchants received the linen yarn at a price. Job complained that his days were swifter than a weaver's shuttle. From these quotations we learn that flax was cultivated, prepared, spun into yarn, woven into linen, and considered an important article of merchandize in those remote ages. Indeed, fine linen is frequently mentioned amongst the ornaments of the Temple at Jerusalem. "The Egyptians," says Belzoni, "were certainly well acquainted with linen manufactures equal to our own, for in many of their figures we observe their garments quite transparent, and among the foldings of the mummies he observed some cloth quite as fine as our common muslin, very strong, and of an even texture," which proves that their manufactures must have arrived at a great degree of excellence. Pliny describes the different qualities of flax respectively produced by each country, with a particularity which argues that the manufacture of linen was already become an important branch of commerce to many nations.

Flax was first introduced into England by the Romans. In 1175 it was classed amongst all titheable productions. In 1531 a statute was enacted, requiring that, under certain penalties, "for every sixty acres of land fit for tillage, one rood should be sown with flax and hemp-seed." From that period to 1767 many unsuceessful attempts were made to extend and improve the cultivation and preparation of flax. In the latter year several thousand pounds were proposed to be divided amongst the successful cultivators of the plant. About the year 1798 a bounty of 4*d.* per stone was given to claimants for the growth of flax. "In 1810 a new method of dressing flax was proposed by Mr. Lee, who not only patented the invention, but obtained an act of Parliament by which the specification of his invention was ordered to be deposited in the Court of Chancery, to be kept secret from the public for 15 months, and then to be produced only by order of the Lord Chancellor, and by him to be examined whenever occasion required. . . . . . Messrs. Hill and Bundy, in the year 1817, likewise patented an ingenious machine for breaking and rubbing flax; but though this was said to have considerable merit as regarded its mechanical arrangement, the machine has not been found of greater practical utility than that of Mr. Lee." But this branch of national industry may not be said to have been thoroughly established before the formation of the Norfolk Flax Society, the first annual meeting of which was held on the 6th of January, 1843. The objects of this association are—

Firstly.—By a partial alteration of the rotation of crops to increase the annual profits of the cultivators of the soil.

Secondly.—By the introduction of flax, the culture of which affords considerable employment to women and children, to add to the scanty earnings of the agricultural laborer.

The third object we have in view is to open a new source of employment for the manufacturers of the city of Norwich, and thus to relieve the distress so prevalent among the industriously-disposed poor of that ancient city.

On the 3d of November, 1843, a National Flax and Agricultural Improvement Association was also formed at Ipswich, for the purpose of affording instruction and assistance in the cultivation of flax, the use of the seed to fatten cattle, box-feeding, summer-grazing, &c., &c.; on which occasion many specimens of flax and linseed of superior quality were exhibited from various counties, proving that the soil and climate of Great Britain and Ireland are peculiarly adapted to the culture of the plant.

From a series of experiments made during the past four years, and now in extensive operation, particularly in Norfolk, it has been incontestably proved that a compound of flax-seed, with grain, pulse, or chaff, for fattening cattle, is far superior to foreign oil-cake; and if used in connection with box-feeding and summer-grazing, will enable every farmer in Great Britain to fatten more than double his usual number of stock, and render him forever independent of foreign aid, both for food for his cattle and manure for his land. Hence it will readily be seen that a more abundant supply of grain, meat, wool, leather, tallow, oil, flax, and hemp, &c., &c., must be produced, and the merchant, the tradesman, the artisan, and the laborer, reap proportionable benefits with the cultivators of the soil.

At the Annual Meeting of the Tenants of the Earl of Erne's Estate in Ireland, Capt. Skinner, the benevolent and zealous Secretary of the Irish Flax Improvement Society, addressed the meeting; from whose speech we take the following brief and important extract:—

Three years since, the quantity of Irish flax grown was computed to be about 25,000 tons. The increase of value upon this amount effected through the exertions of the Society was, at the least, taking a general average, £10 per cent., which would gain a sum of £250,000 additional in circulation among our farmers. But, my Lord Erne, it is now understood by calculations, there will be fully 14,200 tons of flax more in the markets this season than there was three years since, which, at the low rate of £45 a ton value, would give the sum of £643,050; and this, added to the above additional value, makes it clearly appear that fully a million of money above the usual expenditure will be retained in the country and expended in the home market this season, contributing thus to the welfare of the community at large. But to prove, my Lord, that this calculation is not fallacious, we have positive corroboration of the fact, by taking the official return of imports of foreign flax for the last four years, which shows a gradual decrease, and in a ratio commensurate with the Society's successful exertions to increase the growth and promote its better preparation at home. It was stated before a committee of the House of Commons in 1840, that the amount of the importation of foreign flax from all the Continent furnishing into Great Britain, was 80,000 tons; in 1841 it was much under this amount; in 1842 it was in round numbers but 67,000; and in 1843, 55,000 tons. Here we have facts substantiating the former views that we are gradually becoming more independent of the foreign supply; and I can affirm on the experience of the past and practical knowledge acquired by an agriculturist abroad and at home, that no reason exists whatever why the whole quantity of the raw material required to keep our manufactories in full employment, may not be produced at home, both in quantity and quality, and thus the great drain of wealth, the purchasing of it from foreign countries (countries, too, with whom we have no reciprocal transactions), may be checked and circulated at home to the enrichment of our farmers, and weal of Ireland. Let there be, therefore, no cessation of exertion to raise the supply required, and be assured that we have both the climate and the soil to grow it to any perfection, if but due skill and attention are given to it. But look at these specimens of flax, and those beautiful fabrics which I brought with me, as samples of what the Irish farmer can produce, and the Irish weaver can turn out. No country in the world can surpass them. This linen of 28vo, was woven near Lisburn, and this cambric at Lurgan—the prize pieces were even finer. The linen that obtained the medal of the Royal Agricultural Society was 30vo, and will be presented to her Majesty. At the recommendation of the Flax Committee, the Royal Agricultural Society gave premiums for yarns at their late meeting, the object of which was to try if the description of yarn made use of in the manufacturing of cambrics could not be furnished at home. It is of a quality the mill-spinning cannot produce, and some £30,000 worth has now to be imported annually for the cambric factories at Lurgan, Warringstown, and elsewhere, that are so successfully competing with and excluding the French and other foreign countries from the English market. The result was most gratifying. Some forty specimens of spinning on the old system were sent in, and the lowest number of them was 23 hanks to the lb., and up so high as 41 hanks. Now from 16 to 30 hanks to the lb. is what is required, and if the count could be depended upon, and quality be equal, 40 hanks at any time would find a good market, and the poor industrious woman make the value for her husband's fine flax of a lb. not worth 6*d.*, amount to 20*s.* or 30*s.* New resources are thus opening out for our people, and those of this fine country becoming daily further developed. In conclusion, I would just direct attention to these flax machines which Lord Erne has kindly taken as models for you. The beetling one will save you much labor, and no mill can do its work so well—the rippling combs, I hope also to hear will be in great use next season, even if you can afford to throw away the bolls of your flax, then take them off, as no flax can be properly handled with them on. It should be done at the time of pulling, or if the flax is dried and stacked, then they must be threshed out carefully like grain, but without untying the beets.—*Condensed from Warnes' Treatise.*

## THE MOSS ROSE.

THE Moss Rose (*Rosa centifolia muscosa*), or Mossy Provence Rose, is most probably an accidental sport or seminal variety of the common Provence Rose, as the Old Double Provence Rose, which was introduced to England from Holland in 1596, is the only one mentioned by early writers on gardening. If it had any claims to be ranked as a botanical species, the single-flowering Moss Rose would most probably have been the first known and described; but the single moss, as compared with the double, is a new variety. The year 1724 is recorded by botanists as the date of its introduction, or rather of its being first noticed in Europe, and Miller mentions it in 1727. Some few years since a traveller in Portugal mentioned that the Moss Rose grew wild in the neighborhood of Cintra; but most likely the plants were stragglers from some garden, as I have never seen this assertion properly authenticated. The origin of the Double Moss Rose, like that of the Old Double Yellow Rose (*Rosa sulphurea*), is therefore left to conjecture; for gardeners in those days did not publish to the world the result of their operations and discoveries. As regards the Moss Rose this is a subject of regret, for it would be very interesting to know how and where this general favorite originated. Probably, when first noticed, gardening was of such small consideration, that the discovery of a rose, however remarkable, would not be thought worth registering. That it is merely an accidental sport of the common Provence Rose is strengthened by the fact, that plants produced by the seed of the Moss Rose do not always show moss; perhaps not more than two plants out of three will be mossy, as has been often proved. Those that are not so are most evidently pure Provence Roses, possessing all their characters. To show, also, the singular propensity of the varieties of *Rosa centifolia* to vary, I may here mention that the common Moss Rose often produces shoots entirely destitute of moss. Mr. Rivers makes mention of his having observed a luxuriant branch of the Crimson or Damask, which is generally more mossy than the Old Moss Rose, that presented a remarkable appearance, being almost smooth. The next season it had entirely lost its moss, and had produced semi-double flowers, the exact resemblance of the Scarlet Provence. The White Moss is another instance of this singular quality, for that originated from a sporting branch; the Mossy de Meaux is also a curious deviation, and the Crested Moss or Provence, is another case in point. It seems, therefore, very feasible, that the Provence Rose, from being cultivated in Italy through so many ages, produced from seed, or more probably from a sporting branch, the Double Moss Rose, that is, a Double Cabbage or Provence Rose, covered with that glandular excrescence which we term moss; this brancher plant was propagated, and the variety handed down to us, perhaps as much or more admired in the present day as when first discovered. These Roses always have been, and I hope always will be, favorites; for what can be more elegant than the bud of the Moss Rose, with its pure rose-color, peeping through that beautiful and unique envelope?

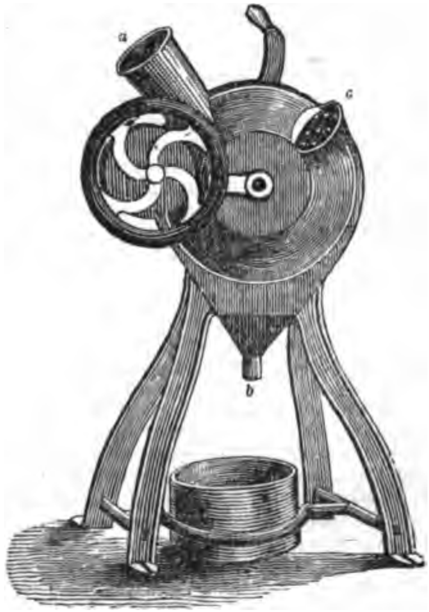
The assertion advanced by some writers that this Rose, when cultivated in Italy, "loses its mossiness almost immediately, through the influence of climate," is puerile, when the fact is so well known to us that it retains this distinctive character at New Orleans, and at other localities far exceeding Italy in an approach to a tropical climate.

The ancient variety which we have referred to, called the Common Moss, Mossy Provence or Red Moss Rose, is of a pure rose-color, and when in bud is surpassingly beautiful. When fully expanded it is a fine rose, but at that period, the moss being concealed beneath the petals, it no longer presents to the eye its distinctive attraction. During nearly a century that this rose existed in Europe, no new variety was produced, but of late years the greatest attention has been devoted to the production of seminal varieties, and the success has been so triumphant that not less than 70 fine varieties have been produced, including some which bloom several times during the year, and others hybridized with the Bourbon and other classes of roses. I have, at great expense, imported the entire collection.—*Prince's Manual of the Rose.*

## PRESERVATION OF POTATOES.

If potatoes are immersed for four or five days in ammoniated water, containing an ounce of the common liquor ammoniæ to a pint of water, they will, on removal, be found to have their vegetative principle greatly checked, or altogether destroyed, so that they may be preserved throughout the year without the least deterioration of their general qualities. The temporary action of the ammonia in no way affects the potato beyond that of destroying its power of growth; if, however, any change is produced, it is rather beneficial than otherwise, somewhat improving the appearance and flavor of inferior potatoes, and giving them a mealiness they did not possess. The transient nature of the application removes any suspicion of injury from the material employed, and it is all lost by evaporation, so that not a trace remains behind; nor could the most fastidious ever detect that the potatoes had been immersed in ammonia, so volatile is its nature, so perfect its escape. The exportation of potatoes to foreign climates, chiefly within the tropics, is an object of importance; and for the comfort of sailors there is nothing in the way of diet greater than the luxury of a potato with their salt food. As a means of prolonging their enjoyments, and adding to the healthful diet of a sea life, this mode may be adopted with advantage. The expense of immersion is very trifling, and they subsequently require to be spread in an airy situation to dry. Potatoes so treated, have been used after ten months' keeping in a warm kitchen closet, and were found to be perfectly good. If the potatoes, instead of being removed in five days, are continued in the ammoniacal water for three weeks, the potato becomes tough and shrivelled while in the liquor, and, when dried by exposure to the air, assumes quite a new form; it appears consolidated, and its qualities are greatly lost, for on boiling it assumes the appearance of sago, or starch, yet still firm, and retaining its form; if used in the dry and uncooked state it has a mealy flavor, and the properties of grain. There is no chemical change effected in the potato, but merely a mechanical consolidation and extraction of moisture; for precisely the same effect may be produced by immersing potatoes in a strong solution of salt and water, taking care to remove by subsequent ablution the whole of the salt, and this requires some time, and repeated changes of water.—*Edinburgh Journal of Agriculture.*

## BURRALL'S CORN-SHELLER.



Burrall's Corn-Sheller.—Fig 79

This truly labor-saving machine is constructed of various sizes, and is made entirely of iron. The upper part consists of a strong chamber or box, in which revolves a short cylinder or disk armed with numerous teeth, as is also a portion of the inner surface of the box. The ears of corn are dropped by hand or otherwise, into the opening, *a*, and when the cylinder is set in motion by means of a crank or other power, the cob comes out at *c*, and the corn falls through a hole at *b*, perfectly shelled. A man and boy can shell five bushels in an hour, and if a steam or horse-power be applied, with proper fixtures for feeding in the corn, 100 bushels may be shelled in a day! We strongly recommend this machine to farmers, notwithstanding its cost, as an improvement in every respect over the common mode of shelling corn with a frying-pan or fire-shovel, by hand. Price $10 to $12.

## POPULAR ERRORS.—No. 2.

*Shrinking and swelling of Meat in the Pot.*—When children, we used to be told that pork, beef, &c., killed in the *old* of the moon, would *shrink in the pot;* and if in the *new, it would swell;* and a great many good, honest farmers, religiously observed her waxing and waning quarters for their periodical packing. That some meat shrinks, while other swells, is a fact too notorious for cavil; but that the moon is to be praised or blamed for this agency we most fully deny. The true cause of these changes is to be found in the manner of feeding the animals before slaughtering. An animal that has been long and well fed, till the fat cells have become fully charged with solid matter, will, on exposure to boiling water, absorb a portion of it, and consequently swell the dimensions of the flesh; while that which has been hastily or but partially fattened, will diminish in cooking from the abstraction of the juices which occupied the cavities or spaces between the lean fibres. This is the *whole secret* of the *shrinking* and *swelling* of meats. It will thus be perceived that one carcase of equal weight may differ materially in value from another of nearly the same apparent quality. This difference in value is equally manifest in the quality of fish and poultry. Eggs from well-fed hens are also much more rich and substantial than those which are produced by hens sparsely fed. The latter will invariably be found meagre and watery.

*Horseshoes*—not for shoeing horses, but for "keeping out witches," are still a staple article among the farmers of our country. Indeed, they have not yet been entirely driven out of the printing-offices, for we saw a formidable one recently protecting the only door to this domicil of the printer's devils. What particular style of shoe is necessary for the utmost efficiency of keeping out witches, we are not advised; whether of concave, flat-toed, sharp-corked, or what not; but we believe it should invariably be pretty thoroughly worn; the older and the uglier the more efficacious. We should think additional virtue would be imparted to it, if taken from a horse that had died of strangulation or some unknown disease; and if from an old blind, spavined, wind-broken mare, that had slunk her foal, we presume entire impunity would be secured.

Reason and philosophy have both been brought to bear on this subject, without success, for here is a practice above and beyond the reach of both. "Our fathers did it, and they are wiser than we, and nobody knows that it does not keep them off, and we shall do as they have done." As old horseshoes are not expensive, and have been found a good substitute for *new hemp*, which is more saleable, and at a higher price, we commend the present practice over the older one, where hemp was almost entirely substituted. Oh, we forget, we believe they did sometimes drown and burn witches as well as hang them.

*Setting out Fruit Trees.*—It is a great error that trees will not grow in any soil where they can spread their roots, provided the ground be first deeply plowed and well pulverized, or holes be dug in it sufficiently large for the roots to spread, and then the proper elements be added, if deficient in them, to make wood and fruit. We can instance many a place in this vicinity, where it is said the pear or peach tree will not flourish. Now this is all gammon. We say they will grow, and that luxuriantly too, and bear any quantity of fruit.

A friend of ours, in Westchester, was told by his neighbors when he first set out his peach trees, that they would all die because the soil was not suitable for them. He had little faith in such prognostications, but went resolutely to work. Dug large holes—put a wide flat stone at the bottom—cut off the tap-root—manured the ground well—plowed it deeply—planted potatoes—then corn—then put plenty of charcoal and lime about the trunks of the trees—then more manure and planted again in potatoes—and then sowed oats and grass seed. In five years from planting the peach stones, he had a large quantity of the finest quality of fruit, which his neighbors were very glad to beg of him, notwithstanding they had prophesied he could not grow them.

Another friend of ours, on the south side of Long Island, found a patch of stiff soil, with an admixture of clay in it, not far from his residence. He set out pear trees on a poor sandy soil, and carted three loads of this stiff soil and spread around each tree. In other respects he treated them and the soil very much as our Westchester friend did the peach trees. This was nine years ago. Now, he has plenty of choice pears, while his neighbors, for miles around, have not a single one, merely because they acted on the belief that neither the soil nor the climate was suited to grow them!

* * *

Comparative Value of Irish and Virginian Tobacco.—In the year 1829-30 the cultivation of tobacco in Ireland excited much attention among agriculturists, and several hundred acres of it were raised in different counties; in consequence, the attention of the Royal Dublin Society was directed to the subject, and the author was requested by a select committee of that body to institute experiments on tobacco with a view to determine some questions of a practical nature, as to whether its root contained nicotin, and in what quantity, and to ascertain the comparative value of Irish and Virginian tobacco.

The author's experiments were made on average samples of Virginian and Irish tobacco; for the former he was indebted to the kindness of Mr. Simon Foot, and for the latter to Messrs. Wild, Cuthbert, Cathwell, and Brodigan. From a number of experiments the author was led to conclude, that the dried roots of Irish tobacco contain from four to five parts of nicotin in 100 parts; and that one pound of good Virginian tobacco is equivalent in value to about twenty-four pounds of good Irish tobacco.

After the author had finished his experiments, it was gratifying to him to be informed that some manufacturers estimate one pound of Virginian tobacco equivalent in value to about two pounds of Irish.—*Proceedings of the British Association.*

* * *

To Prevent the smoking of a Lamp.—Soak the wick in strong vinegar, and dry it well before you use it; it will then burn sweet and pleasant.

## TREATMENT OF MULES.

"Gaston," on page 187 of the Agriculturist, gives his sad experience with stock, and makes a most lamentable face of it, in being "the most unfortunate people in the world." He gives you, I know, a faithful account of the how, that work-horses are generally treated—but I, for one, enter my *caveat* against the treatment. and say, no man has any right to accuse our Maker of partiality, who will treat stock in this manner. I here give you a true and plain statement how I do, and defy a man to visit the Hall and find anything to the contrary.

My team turns out about 4 o'clock, these days, say, about daylight; at 11 o'clock the horn sounds, which calls them from the field; the mules are all turned into a lot, where my cows are fed and milked, having in it a trough 50 feet long, under a roof, in which salt lies the year round, with ashes occasionally mixed therewith. Here the mules walk about, wallow, and rest until cool; when they are turned into a horse lot adjoining, and driven in one corner to water; they, of their own accord, return to the stable, where food is present, each one to his stall, there tied, curried, and rubbed —my manger is never empty. At 2 o'clock, P.M., the horn again sounds, when the hands turn out, having watered again, and work until *dark*, when they return to the lot, and undergo similar treatment.

I use no racks, I use no long provender; and about half the time I use cob and corn meal; provender and the latter is thoroughly sprinkled, so as to be damp, with a weak brine. I feed about one week with the meal above mentioned and cut stuff—being fodder, millet, hay, and shucks—another week on corn and cut stuff. My troft—(Webster says trough)—is 2 feet wide at bottom, 1 foot deep, 2½ wide at top, and 5 feet long, with a partition of about 20 inches for corn; it is cleaned out of everything, once a week, and when wet stuff has been used is well cleaned out with a cloth wet in brine.

This is my mode—and I was born and raised in this glorious South, and here mean to live and die —and, by the by, except one mule, I have not had a case of colic, since the Sheriff, *et id omne genus*, drove me out of fine doings in 1839, to attend to this small business. I say now to friends, North, South, East, and West, I do not in truth consider there is anything in this, but system, and believe it was my profession that gave me this, which leads me to say, as I do believe, that the doctors of America are bound to be as useful men to this country, in giving more system to the science and art of agriculture as any other class. I am proud of my profession, and proud of my country, and say that I may stimulate my brother chips to greater exertion, and that my brethren of this clime may profit thereby, as well as by my feeble pen.

M. W. Philips.

*Edwards' Depôt, Miss., June 15th, 1846.*

Irish Mode of Boiling Potatoes.—Wash the potatoes clean without breaking or cutting the skins. Drop them into a pot of boiling water, adding a little salt, and let them remain until sufficiently soft for a fork to be easily thrust through them. Pour off the liquid in which they have been boiled, and dash in cold water in its stead. Let the potatoes remain two minutes; pour off the cold water; place them over a slow fire, with the pot-lid partially removed, and let them steam until nearly dry. Then peel, and place them on the table in an open dish.

## GARDENING.—No. 9.

*Of the Agency of the Atmosphere in Vegetation.*—The atmosphere is composed principally of water, carbonic acid gas, oxygen, and azote. The quantity of water that exists in the air, as vapor, varies with the temperature; the hotter the weather the greater the quantity. At 50° of Fahrenheit one-fiftieth of volume, or about one-seventy-fifth of weight of the air, is vapor; while at 100°, the vapor is one-fourteenth in volume, or one-twenty-first in weight. It is a beautiful feature in the economy of nature, that aqueous vapor is most abundant in the atmosphere when it is most needed for the purposes of life; for, in very intense heats, when the soil is dry, the life of plants seems to be preserved by the moisture in the air, which is absorbed by the leaves.

The quantity of carbonic acid gas in the air is very small; probably, where there is a free circulation, not to exceed the one-fiftieth part. The principal consumption of the carbonic acid in the atmosphere seems to be in affording nourishment to plants; and some of them appear to be supplied with carbon chiefly from this source. The action of the atmosphere on plants differs at different periods of their growth, and varies with the different stages of the development and decay of their organs. If a healthy seed be moistened, and exposed to the air at a temperature not below 45°, it soon germinates, and shoots forth a plume which rises upwards, and a radicle, which descends. Seeds are incapable of germinating, except when oxygen is present. From this it is evident that, in all cases of semination, the seeds should be sown so as to be fully exposed to the influence of the air; and one cause of the unproductiveness of cold clayey adhesive soils is, that the seed is coated with matter impermeable to air. Any seed not fully supplied with air, always produces a weak and diseased plant.

Dew is the moisture insensibly deposited from the atmosphere, on the surface of the earth. This moisture is precipitated by the cold of the body on which it appears, and will be more or less abundant, not in proportion to the coldness of that body, but in proportion to the existing state of the air in regard to moisture.

Rain is considered to be the result of the electrical action of the clouds upon each other. The quantity of rain varies with the latitude. The warmer the air, the greater is the quantity of vapor precipitated; hence the reason why rains are heavier in summer than in winter, and in warm countries than in cold. There are some countries where it scarcely ever rains. For example, in South America, the clouds seem to be checked in their progress from the Atlantic, by the Andes; and while the sides of the mountains are deluged with frequent showers, the plains of Peru and Chili, west of them, are entirely destitute of rain. Such countries are watered entirely by mountain streams, and by the dews, which are very heavy. The average quantity, in different latitudes, as stated by Humboldt, is as follows :—

| | | Mean Temp. | Rain. |
|---|---|---|---|
| Under the Equator, | | 81.5 | 96 inches. |
| North Latitude, | 19° | 79.25 | 80 " |
| " " | 45° | 68. | 27¾ " |
| " " | 60° | 38¾ | 17 " |

Water is absolutely necessary to the economy of vegetation in its elastic and fluid state, and also in its solid form. Snow and ice are bad conductors of heat; and when the ground is covered with snow, or the surface of the soil or of water is frozen, the roots or bulbs of the plants beneath are protected by the congealed water from the influence of the atmosphere, the temperature of which, in northern winters, is usually very much below the freezing point; and this water becomes the first nourishment of the plant in early spring.

*Of Manures.*—Every species of matter capable of promoting the growth of vegetables, may be considered as a manure. Decaying animal and vegetable substances constitute by far the most important class of manures, or vegetable food. Vegetable and animal substances deposited in the soil, are consumed during the process of vegetation; and they can only nourish the plant by affording solid matters capable of being dissolved in water, or gaseous substances capable of being absorbed by the fluids in the leaves of vegetables. The great object, therefore, in the application of manure, should be to make it afford as much soluble matter as possible to the roots of the plants, and that in a slow and gradual manner, so that it may be entirely consumed in forming its sap and organized parts.

Mucilaginous, gelatinous, saccharine, oily, and extractive fluids, are substances that in their unchanged states contain almost all the principles necessary for the life of plants; but there are few cases where they can be applied as manures in their pure forms. All green succulent plants contain saccharine, or mucilaginous matter, with woody fibre, and readily ferment. They cannot, therefore, if intended for manure, be used too soon after their death. Hence the advantage of plowing in green crops, whether natural or sown for the purpose; they must not, however, be turned in too deep, otherwise fermentation will be prevented by compression and exclusion of air. Green crops should be dug in, if it be possible, when in flower, or at the time the flower begins to appear; for it is at this period that they contain the largest quantity of easily soluble matter, and that their leaves are most active in forming nutritive matter. Yeast is one of the most powerful and durable of all manures. Unfortunately the article is too expensive to be much used for this purpose, but it will well pay for a trial on fine plants.

Fish forms a powerful manure, in whatever state it is applied; but it cannot be used too fresh, though the quantity should be limited The skin of the fish is principally gelatine, which, from its slight state of cohesion, is readily soluble in water; they contain also fat or oil, either under the skin or in some of the viscera, and their fibrous matter contains all the essential elements of vegetable substances.

Bones are also much used. These are ground in a mill and applied to the land in the form of powder or dust.

Sea-weed is much used on the sea-coast as a manure. It is very transient in its effects; but is nevertheless of much value in situations where it can be obtained. The most common method of using it, is to convey it directly to the land, and apply it fresh as a top-dressing to the growing crops. If not applied in its recent state, it should be formed into a compost with dung, or with a mixture of that and earth.

Peat is a substance which may be used as a manure; but unless freed of its acid principle it may remain for years exposed to water and air without undergoing decomposition, in which state it can afford no nourishment to plants. It should, therefore, be made to undergo decomposition before it is applied to the soil. This may be done by long exposure to the air, or by mixing it with newly-made and completely slacked lime, which decomposes the woody fibres, and forms a kind of compost which is of some value. Amongst excrementitious solid substances used as manures, one of the most powerful is the dung of birds that feed on animal food, particularly that of sea-birds. This guano which is used to a great extent in South America, and which has attracted much attention in this country for a few years past, is the manure that fertilizes the sterile plains of Peru. It exists abundantly in the small islands in the South Sea, and appears as a fine brown powder.

Liquid manure, being the drainings of the stables, is a strong fertilizer. If applied to corn when sprouting or just before a rain, it has an effect which no other manure has. It destroys insects, and throws a surprising degree of vigor into the crops.

The dung of horses, oxen, and cows, is found to contain matter soluble in water, and that it gives in fermentation nearly the same products as vegetable substances, absorbing oxygen, and producing carbonic acid gas. This should always be made to ferment in the soil, or should be formed into a compost by the addition of one-half leafy mould.

L. T. TALBOT.

* * *

HOW TO INCREASE THE FRUITFULNESS OF ORCHARDS.—Alkaline, or ammoniacal preparations, have been applied to young trees, as well as to old ones, for the purpose of stimulating their growth, and accelerating their fruitfulness, such as whitewashing their trunks and branches, rubbing them with soap-suds, and spreading round their roots lime, gypsum, charcoal, soot, ashes, &c.; and "human urine," says Columella, "which you have let grow old for six months, is well fitted for the shoots of young trees. If you apply it to vines, or to young apple-trees, there is nothing that contributes more to make them bear an abundance of fruit; nor does this only produce a greater increase, but it also improves both the taste and flavor of the wine and of the apples."

## DESTRUCTION OF THE COTTON CROP BY INSECTS.

The caterpillar, cotton worm, cotton moth (*Noctua xylina*), or chenille of the French West Indies, Guiana, &c., has utterly blighted the hopes of the cotton planter for the present year, and produced most anxious fears for the future. I have heard from the greater part of the cotton-growing region—the news is all alike—the worm has destroyed the crop. I have no idea that any considerable portion of any State will escape.

This destroyer has cut off the crops, in different parts of the country, several times, but has never before appeared so early in the season, the plant being at the same time so unusually backward. In 1840, these insects did not appear, in Southern Mississippi, until just before the first frost. In 1844 they commenced the work of destruction about the 1st of September. During both of these years, the crop was well matured, the fields being as white as at any period whatever, after the worms had stripped off the leaves. The present year, the crop is unusually backward; at least four weeks later than usual. We have but just commenced picking; usually beginning about the last week of July, or the first of August. At this moment, every field within this region of country, say south of Vicksburg, is stripped of everything but the stems, the larger branches, and a few of the first bolls, already too hard for the worm's power of mastication. The full-grown bolls, not yet become hard, are completely eaten out, a circumstance I have never heard of but once before, in 1825—(See Southern Agriculturist, vol. 1, page 207). The fields present a most melancholy appearance. Looking from the bluff at Natchez, across the river, to those fine plantations back of Vidalia, nothing is to be seen but the brown withered skeleton of the plant.

The natural history of an insect so destructive to a crop of such great value to the world, must certainly be of the utmost importance to the growers of that crop. In fact, it is indispensable that a united general effort should be made to check their increase, if indeed that be possible, if cotton-growing is to be continued. And to do this, we must have a thorough knowledge of their nature and habits.

Although this caterpillar has been but too well known to the planters, in different parts of the South, ever since 1793, when they first appeared in Georgia, their ravages have been partial, and their appearance at long intervals. No longer ago than 1834, Mr. Spalding states (Southern Agriculturist, vol. 8, page 42) that " these destructive visitations, judging from the past, may be expected once in about seven years." In this part of the country, the belief was so general that they only came *once in four years*, that few would believe that the caterpillar was really amongst us. The more so, as during the first eight or ten days of their life, of such weather as we have had this summer, they, like the silk-worm, eat comparatively little. After that, they consume two or three times their bulk in a day, and will devastate a field, however large, in three days of warm weather. Seven years after their first appearance in Georgia, " they commenced the work of devastation in South Carolina. In 1804, the crop, which would have been devoured by them, was, with the enemy, effectually destroyed by the hurricane of that year. In 1825 (between 1804 and 1825, their depredations were only occasional, and then confined to particular fields) the visit of the worm was renewed, and its ravages were universal and complete. In 1827, '29, '33, '34, '40, '41, and '43, the Lower Parishes generally, in particular locations, suffered greatly by its depredations. The injury that has been done by the caterpillar is almost incredible. In one week they have denuded of its foliage every stalk in the largest field. In the Bahamas, between March and September, 1788, no less than 280 tons of cotton, on a moderate scale, were devoured by this worm. Among the causes of failure of the crop in that quarter, as ascertained by answers of the most intelligent and experienced planters to questions proposed by the House of Assembly, the most prominent is the destruction by the chenille. The same cause produced the abandonment of the gossypium culture in several of the West India Islands."*

In Guiana, the chenille has greatly lessened the amount of cotton made. For an interesting, though somewhat erroneous and speculative account of their ravages there, and other matters connected with their appearance and disappearance, preventives and checks to be used, &c., see the Edinburgh Ency., Article—Cotton.

In the Southwest, they have appeared at intervals ever since 1804. I cannot learn, however, that they have ever done serious injury to the crops before the present year, except on Red River. There they have paid their visits more frequently, and in greater numbers, greatly lessening the value of those splendid cotton-lands, and almost compelling their abandonment. They have never, before this season, commenced the work of destruction, elsewhere, until so late in the year, that the cotton was too well matured to be greatly injured, except by the trashing of the fibre from the excrement and scraps of leaves dropped, and the numerous chrysalides wound up in it. Neither was a third crop of worms produced, to occasion the general, wholesale destruction their early coming has caused this year.

It was almost amazing to see the perfect ignorance of the nature of such a scourge, displayed by the editors of both city and country papers, in their assurances to their readers, that " the alarm excited by the appearance of the *army worm* (as they almost all erroneously called it) might now be laid aside, as their advices from the country stated that they had done less harm than was at first apprehended." They were fast disappearing as caterpillars, to re-appear as moths in eight or nine days, and leave, each pair of them, a progeny of from 500 to 1,000!

The parent of these destructive myriads has been fully described by Say, at page 203 of vol. 1 of the Southern Agriculturist, to which the reader is referred. The greater number of your readers will, perhaps, better understand my plain, farmer-like account of them.

The moth is about three-fourths of an inch in length, and of nearly the same breadth at the points of the wings, when at rest; the color an ashen-grey,

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*** Seabrook's Memoir on the Cotton Plant; and Edwards' West Indies.**

with an olivaceous-bronze tinge. The outer or upper wing has three minute white spots along, and close to, its outer edge; the first about three-sixteenths of an inch from the neck; the others each an eighth of an inch below—still lower, is a kidney-shaped black or brown spot, shaded with white, many times larger than the small white ones, a fourth one of which forms the upper end of the dark spot. Across the wings are several wavy purple lines, resembling the letter W. There is also a fringe of the same color, on the inner edge, and one of purple and grey at the end. The under wing, which is of a lighter color, is fringed in the same manner. The body is thick, and tapers to the end. The female is larger than the male, but otherwise they are much alike. Their duration of life is about five to seven days, during which they may be seen, in the evening, flying about the blossoms of the cotton plant, the cow-pea, &c., feeding upon the honey of the flowers, sucking it up like the rest of their kind, through the long tube they keep coiled up, when not so employed. At this time, too, the female deposits her eggs, scattering them over the leaves of the cotton plant, attaching them, to the number of from two to six hundred, or more, to the lower side, by a very short thread. The egg is minute, almost transparent, so that the color of the leaf gives it a green appearance. When detached, they are white.

These eggs hatch in from two to five days, according to the weather, and some say the phase of the moon; the young larvæ are very minute, but immediately commence eating the leaves of the plant, and increase rapidly in size, attaining their full growth of one and a half inches, in from fourteen to twenty days. During the first ten days of their life, they merely puncture the leaves, and eat round their margins, doing comparatively little injury; and at this time, too, they moult or cast their entire skin, at least four times. After that their voracity is absolutely astonishing. They eat up, in three or four days, not only all of the leaf, but the calyx or squares, the young and even full-grown bolls which are not yet hard; and of these they gnaw the outer rind, so as to cause the boll to rot. This year, owing to the immature condition of the cotton plant, they are able to consume all but the main stalk and the stoutest limbs; so that what bolls they left, which were not thoroughly ripe, are not maturing; and in many fields, where the plant was still more backward, it is drying up to the ground.

The caterpillars differ in color; some being all of a light green, with some stripes of yellow; but the general color is light green, with longitudinal stripes of yellow on the sides, and along the back two black ones, separated by a very narrow, clear line of white. What may be the cause of the difference in their general color, I cannot say; the markings, however, show that they all belong to the same family. They are studded all over with small, distinct black spots, from each of which a black hair grows. This caterpillar has sixteen legs—one pair behind, eight in the centre of the body, and six near the head. It elevates the front half of the body, when at rest, giving it a continued motion from side to side; and when touched, it doubles up and jumps off to some distance. They give forth, when even few in number in a field, a peculiar sweetish odor, which is yielded neither by the worm nor the plant alone; and which, when smelled by a planter, will not readily be forgotten. Their presence is thus easily and certainly detected. When it has attained its full growth, it places itself near one of the corners or lobes of the leaf, spins a few threads of silk, attaching them to the leaf in such a way as to draw up the edge, which it makes fast to the surface, forming a scroll, within which it undergoes its transformation to a pupa. When the leaf has been all consumed, they attach themselves, for this transformation, to the leaf of any plant within reach; and, unfortunately, too often make use of the loose fibre in the open boll, for this purpose; and being gathered with the cotton, are cut up by the gin, staining and trashing the cotton very injuriously.

The pupa is black or dark brown, and shining. From the moment it begins to spin, until it issues from the pupa, a perfect moth, is from eight to nine days of warm, seasonable weather. But if unusually cool, it extends to a longer period; even to weeks. Hence, I am inclined to think, that it is in the pupa state the insect is preserved over winter. In fact, there is no doubt that many are thus saved—the moths that are seen occasionally on a warm winter's day, having been hatched prematurely by the unseasonable warmth of the weather, and quickly perish from cold and want of food. But whether we at all times receive our supply from this source; or whether (which I think quite as probable), they are not unfrequently brought on a gale of wind, from the West Indies, Mexico, or the coast of Guiana, will be difficult to decide. My observations lead me to the conclusion, that after a steady cold winter, we have the caterpillar early, and in abundance; and that after a mild or warm one, we have them, if at all, but partially, and late in the season. The pupa is frequently found during winter, safely sheltered under a scale of bark, between two evergreen leaves, under the splinter of a fence rail, or in a tuft of pine leaves.

We find then, that during the summer, and particularly if the weather be close, dark, and sultry, this insect increases and multiplies itself with great rapidity. One pair of moths saved over winter, actually produce in from four to five weeks, say 400. If even half of that number escapes, we have in less than five, and often in four weeks, 40,000; which again produce 4,000,000, whose progeny would destroy a whole crop. And I suspect that the actual progressive increase is greater than even this would show.

I have this moment received a note from my overseer on Cold Spring plantation, in Wilkinson County, in this State, from which you must permit me to quote, though unwilling to intrude myself or my own concerns. "The worms have finished the cotton. *They have not left a leaf or young boll on it.* I never saw cotton eaten so clean. I cannot make more than half a crop, *if that.*" He is an experienced cautious man, and had a remarkably fine, promising crop, though backward, of course, like every other this season, before the appearance of the worm. Thank heaven, I have plenty for my people to eat, at all events. The corn crop is generally good, in this region.

I do not believe that the planter is any very great sufferer, so long as *half a crop* is made generally.

There is another worm about which I should like to speak, but am not yet prepared, nor have I space here. It is known as the *Boll or Bore-worm*. It commits great havoc on the young boll, eating out all of its contents, and, of course, destroying it. I suppose I speak within very safe bounds, when I say, that twenty per cent. of all the bolls formed upon the plant—you must know that not more than half the blossoms on a plant become bolls, but drop off, calyx and all, before they reach that stage—have been cut off by this worm. It is the larva of a moth. Of its history I shall speak when better prepared. It is most injurious in low, rich lands.

I am, at this time, cutting a second crop of hay from my meadow, such as you never saw, I feel confident. I hope to get in a third crop, by and by.

Thomas Affleck.

*Ingleside, Adams County, Miss., Sept. 9th*, 1846.

## MANAGEMENT OF HONEY-BEES.—No. 5.

The ground around and under the hives should be kept free from weeds and grass. A hard smooth surface is best, as many a weary bee, on returning home, fails in reaching the alighting board, and falls to the ground, in which case, should the ground be encumbered with long grass and weeds, they might become entangled, and thus fall a prey to the hosts of spiders that infest such places. Nor is it any better for the safety of the bees, to have the ground in a loose mellow condition, as is the case when the hoe is carelessly used in cutting up weeds. In this state of the soil, such bees as fall to the ground, soon become covered with dust, and are unable to rise. The best way to kill the grass and weeds, is to saturate the ground in the spring with boiling hot brine, which will effectually put a stop to vegetation. This being done, lay a strip of board along in front of your hives, as a rising point for bees that return home heavily laden and fall around the hives, which often does occur, and if you will take the trouble to watch them, you will perceive that they often fail to get upon the wing, until they ascend some small eminence, from which they take a start, and regain the hive. This may be considered a small matter by many, yet our success in every branch of business consists in our attention to the minutiæ of our object, which in the end shows forth a triumphant result. Suppose by our neglect of cleaning around our hives, we lose the small number of *ten* bees per day, the result would be as follows:—from the first of April to the first of November, we have 214 days, and a loss of 2,140 bees! It is by such means that so many fail in their success with bees, and eventually "run out," as it is termed.

There is another consideration which merits our attention. Whoever has had a prosperous colony of bees, must have often seen large clusters of bees hanging in inverted cones from the bottom-boards; and perhaps he has frequently seen them fall to the ground by their own gravitation, or the force of the wind. It is particularly necessary on this account, that the grass and weeds around the hives should be extirpated. Whenever I perceive any of my hives liable to such a result, I crop a few handfuls of grass and spread it directly under the hives, and whenever the clusters fall, they are protected from the dirt, and the bees adhere together (if at night or during a storm), till the rays of the sun call them forth.

In the months of May and June hundreds of bees are seen running upon the ground, in a disabled condition, endeavoring to rise upon the wing, but without success. This always takes place during the height of the breeding season. For several years, I attributed it to the fighting of different stocks. I could see the bees engaged in deadly strife, as I supposed, but I have since found that what appeared to me to be a combat between bees of different hives, was only the turning out of doors of such *imperfect* bees, as had been brought into existence in their respective hives. This fact was shown by the removal of a hive, for the purpose of producing an artificial swarm. I found the same quantity of disabled bees around the hive so removed, in a few hours after its removal, showing that they had no connection with any other hive.

*The Enemies of Bees.*—The *moth*, or universal enemy of the bee, is the only enemy that we need fear in this country. The wasp and the king-bird sometimes make havoc among them, but every enemy sinks into insignificance when compared with the *wax-moth.* Its first appearance is in May or June. It is of a grey or whitish color, similar to the millers that flit around the blaze of a candle, though not so large. It remains inactive during the day, but as soon as twilight sets in, it sallies forth from its hiding-places, and seeks out the weakest stock or swarms of bees for its operations. Having gained an entrance, it winds its way up the side of the hive that is the least protected, and having gained the summit, or a secure location, some distance from the bottom of the hive, it there deposits its eggs upon the surface of the comb, which in a few days are hatched out, by the internal heat generated by the bees, and become white worms or caterpillars. They at once commence weaving around themselves a white silken substance, as a protection against the bees. They then commence cutting away the combs and building galleries for their own use, from which they put forth their heads for food in every direction. Their heads are covered by a helmet impenetrable to the sting of a bee. When the bees perceive these insects thus at work, they commence cementing them in, and confining them to their original location, and consigning them to starvation, which is easily done, if there are but few of them, but in cases of weak stocks, with constant lodgments of the moth, they are soon undermined, and giving up in despair, they either leave the hive, or dwindle away in inactivity. The symptoms of the depredations of the moth may be known by the falling of particles of comb upon the bottom-board of the hive, of a brown color. By hanging the bottom-board of the hives on wires, one can see at once whether his bees are in danger from the moth. The best time to look is in the morning, and if you find a considerable covering of particles of comb, such as the gnawing of worms would be likely to make, and you find this for several mornings in succession, you may expect that the destroyer is at work.

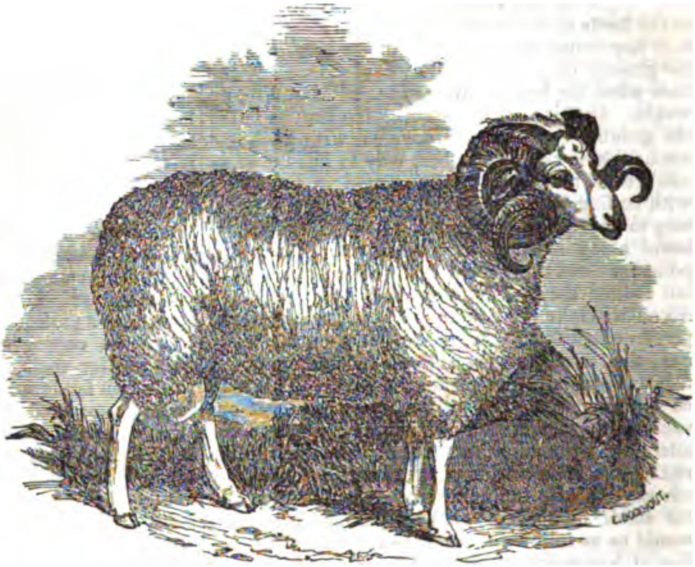
When the bees become active and the winds arise during the day, this comb-dust is generally blown away, hence early in the morning is the time to examine, unless the stock is so far undermined as to give evident signs of it at any time. Another sure sign is in the *inactivity* of the bees. As soon as the moth gets the upper hand, the bees discontinue all operations. Many of them will leave, and join neighboring hives, but a few will remain faithful to the last, and die at their posts.

Every apiarian should be vigilant in looking to his hives in season, that he may at least save the honey, if not the bees, of his mothy hives. If taken in hand in season, he may, perhaps, save his bees, by driving them into a new hive; but if the season is far advanced, the bees would have no time to build new combs, and lay up a new store of honey for winter, consequently, he may save the honey, and disperse the bees among his remaining stock, for there are but few bees generally, under such circumstances, and those few are but little inclined to defend their habitation, consequently the combs can easily be cut out by being properly protected by a bee-dress. But the great object is not to know how to manage *after* the moth has destroyed the stock, but how to *prevent* such a result; and to this end I shall now confine myself. Perhaps there is no part of the management of bees, upon which there has been such a diversity of opinion and action, as upon a *prevention of the moth*. Some have deposited a little *salt* under the corners of the hives. Others have recommended catching them in basins of *sweetened vinegar*. Others, again, have trumpeted forth grand discoveries in the formation of hives, that prevent the entering of the moth, and more recently, some one pretends that a lining of *zinc* will frighten them away, or if they should deposit their eggs within the hive, by placing the hives near the ground, they would not hatch out! This is all moonshine. I give the moth every possible facility to enter my hives. I open *every* side to its ingress, with 48 inches of opening to every hive, yet they enter not. My hives are surrounded by scores of them in an evening, yet they stand impregnable. Not all the ingenuity of man can ever invent, or prescribe a remedy against the moth, aside from the *ability of the bees to defend themselves*. Here lies the grand secret! A certain management of the bees, whereby they are enabled constantly by the force of physical ability and numbers to even prevent the entrance of the moth. This is the *sine quâ non*—the grand desideratum that the world has been so long in search of, the philosophy of which I will give in my next. T. B. MINER.

*Ravenswood, L. I., October*, 1846.

## SAXON SHEEP.

THE Saxon sheep is a variety of the pure-bred Merino, taken originally from Spain, into Germany. It derives its name from the kingdom of Saxony, where great pains have been taken in the improvement of the quality of the wool of the descendants of these Merinos, particularly in the Electoral flocks. Many contend that this improvement has been made to the injury of the carcase and constitution. In some flocks this may be true, but it is not so in all; for an importation made from Saxony the past summer, by Mr. Taintor, of Connecticut, showed as hardy, strong constitutioned, and well woolled sheep, as we have ever seen; and their fleeces were uncommonly heavy, fine, and even in quality. This is a convincing proof that improvements may go hand in hand, and that for the sake of obtaining one superior quality, there is no necessity of sacrificing others. For our own part we have not a doubt, that Merino and Saxon sheep-breeders may in due time and by paying proper attention, get as perfect forms for their animals as the improved Southdowns or Leicesters now show, and at the same time keep up the constitution of their flocks, their weight of fleece, and fineness of quality.

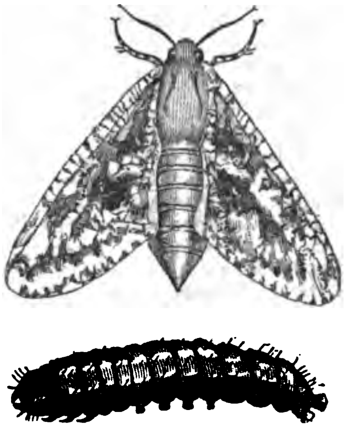


SAXON SHEEP.—FIG. 80.

The cut of the above Saxon sheep is taken from that excellent work, the American Shepherd, by L. A. Morrell. It is a spirited portrait of the best bred Saxons in point of form, though we should have preferred one showing thick wool on the legs and head, as many of the breed do, as this is indicative generally of larger, closer fleeces, and superior constitution.

Saxon sheep were first introduced into the United States in 1823. They are a valuable race, and should be preserved and bred with care. It is to them that we are hereafter to look for such fleeces as can bear exportation to England and France, at a good profit. These foreign countries can procure the coarser qualities of wool elsewhere, and at a cheaper rate than the United States can at present produce them; but in the very fine qualities, we are persuaded no country can compete with us, if we continue growing them with the steady perseverance which usually characterizes our most intelligent and spirited sheep-masters.

## INSECTS THAT PREY UPON LOCUST-TREES.

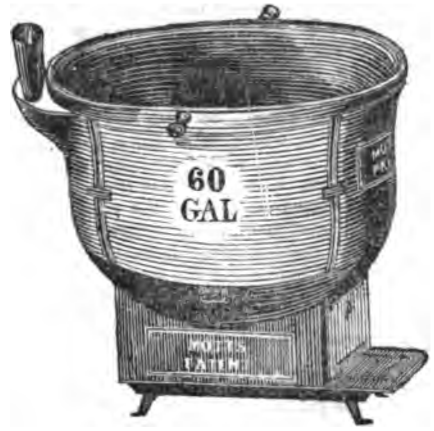


Locust-Tree Borer (*Cossus robiniæ*).—Fig. 81.

The Robinia pseudacacia, in Europe, is very free from the attack of insects; but in those parts of the United States where this tree is cultivated, it is preyed upon by three distinct species of borers, or wood-eaters, the unchecked operations of which threaten an almost entire destruction of this valuable tree. Dr. T. W. Harris, in his "Report on the Insects of Massachusetts injurious to Vegetation," observes that, "One of these borers is a little reddish caterpillar, whose operations are confined to the small branches and to very young trees, in the pith of which it lives; and by its irritation it causes the twig to swell around the part attacked. These swellings, being spongy, and also perforated by the caterpillar, are weaker than the rest of the stem, which therefore easily breaks off at these places. My attempts to complete the history of this insect have not been successful hitherto; and I can only conjecture that it belongs to the Ægerians, or possibly to the tribe of Bombyces." In the same work, he describes a second kind of borer, called Clytus pictus or the painted clytus. "In the month of September," he says, "these beetles gather on the locust-trees, where they may be seen glittering in the sun-beams, with their gorgeous livery of black velvet and gold, coursing up and down the trunks in pursuit of their mates, or to drive away their rivals, and stopping every now and then to salute those they meet, with a rapid bowing of the shoulders, accompanied by a creaking sound, indicative of recognition or defiance. Having paired, the female, attended by her partner, creeps over the bark, searching the crevices with her antennæ, and dropping therein her snow-white eggs, in clusters of seven or eight together, and at intervals of five or six minutes, till her whole stock is safely stored. The eggs are soon hatched, and the grubs immediately burrow into the bark, devouring the soft, inner substance, that suffices for their nourishment till the approach of winter, during which they remain at rest in a torpid state. In the spring, they bore through the sap-wood, more or less deeply into the trunk, the general course of their winding and irregular passages being in an upward direction from the place of their entrance. For a time, they cast their chips out of their holes as fast as they are made, but, after awhile, the passage becomes clogged, and the burrow more or less filled with the coarse and fibrous fragments of wood, to get rid of which, the grubs are often obliged to open new holes through the bark. The seat of their operations is known by the oozing of the sap and dropping of the saw-dust from the holes. The bark around the part attacked begins to swell, and in a few years the trunk and limbs will become disfigured and weakened by large porous tumors, caused by the efforts of the trees to repair the injuries they have suffered." According to the observations of a writer in the "Massachusetts Agricultural Repository and Journal," vol. vi., the larvæ of this insect attain their full size by the 20th of July, soon after which they pass into the pupa state, and are transformed into beetles early in September. The third class of borers which attack this tree, is the Xyleutes robiniæ or locust-tree carpenter moth, of Harris; or the Cossus robiniæ, described and figured by Professer Peck, in the fifth volume of the "Massachusetts Agricultural Repository and Journal." According to Michaux, the ravages of these insects were first observed about sixty years ago; but their habits were not generally known before the year 1803, when they first attracted the attention of Professor Peck, of Harvard University. He observed several locust-trees that had been blown down by a storm, which were much bored by the larvæ of these insects, with their heart-wood dead. In splitting some billets of these trees, he found that they contained several of the caterpillars or borers, of different magnitudes, which enabled him to watch them through the various stages of their growth. "The furrows in the bark of the locust," says he, "are large and deep, extending, in some places, even to the liber or inner bark. It must be in the deepest of these furrows, that the egg to produce the caterpillar is deposited. The inner bark is thick and succulent, affording to the young larvæ a tender and proper food. The sap-wood is harder; this, too, is perforated to the perfect or heart-wood, on which it is afterwards to feed. This it bores in various directions, obliquely, upward and downward, making them larger as it increases in bulk. Some of these perforations are large enough to admit the little finger. The grubs of the wood-eating beetles always provide a path for the escape of the perfect insect out of the wood, before they go into the nympha or chrysalis state. In the same manner does the caterpillar of the locust form an opening quite through the bark, before it forms its cocoon. An inspection of the scene of its labors clearly discovers how everything is done." Professor Peck supposed that the larva lives in the wood three years or more before it attains its full growth. The moths, which come forth about the middle of July, have thick and robust bodies, broad, and thickly veined wings, two distinct feelers, and antennæ, that are furnished on the under side, in both sexes, with a double set of short teeth, rather longer in the male than in the female. The larva of this insect is said also to prey upon the wood of the black oak (Quercus tinctoria). The other insects that attack the common locust-tree, is a species of *Apion*, which inhabits the pods and devours the seeds; and the Eudamus tityrus, which feeds upon its foliage, as well as upon that of the Robinia viscosa.—*Browne's Trees of America.*

## ADVANTAGES OF COOKING FOOD FOR ANIMALS.

It is a matter of great importance that many kinds of food intended for domestic animals should be cooked. For example, that of working horses should be so prepared, or of such a nature, as to allow them to satisfy their hunger quickly, that more hours may be allotted for rest during the time given them from labor. Not being ruminating animals, their oats and corn should be boiled or crushed, in order to avoid loss or waste by swallowing it raw or whole. Equal advantages may be derived by cooking grain and roots which are to be fed to cattle, swine, and sheep. To those who have not already the conveniences for crushing and boiling the food for their animals, we take pleasure in recommending the following implements for these purposes :—



Mott's Boiler.—Fig. 82.

1st. Sinclair's Corn and Cob Crusher, a cut and description of which appeared in our fourth volume, page 92. Price $30.

2d. Pitt's Corn and Cob Crusher, which is a new invention, admirably adapted for grinding corn alone, or with the cob. Price of this complete, $45.

3d. The Hand or Horse-power Mill, made of burr-stone, suitable for flouring wheat and grinding all sorts of threshed or shelled grain. The prices of these vary according to the diameter of the mill-stones, say from $30 to $125.

4th. Cast-iron Hand-mill, suitable for grinding all kinds of grain. Price $7.

Mott's Boiler, Fig. 82. This consists of a common box-stove, with a boiler set over it with two bottoms, which prevent the meal burning in the process of boiling. It will be seen from the cut that this boiler is formed in the simplest possible manner, and may be attended by a child. The dimensions vary from 15 to 60 gallons; the price from $12 to $40.

## EXPERIMENTS WITH GUANO.

I have used Ichaboe guano, Shakspeare's cargo, on my meadow lands, and also on the following crops, wheat, rye, oats, barley, potatoes, Indian corn, rutabaga, common turnips, and sugar beets, all of which have done well, except the corn and rye. Corn planted in drills, a superabundance of stalk, corn light; this I attribute wholly to planting too close. Rye not well filled, but abundance of straw. Wheat, barley, and oats, not yet threshed, except a few bushels of the former, which have been sold at $1.37½ per bushel, for seed wheat, and more wanted for the same purpose; the yield will probably be over 30 bushels to the acre. On my meadow lands I used 200 lbs. guano and 200 lbs. of gypsum, which increased the quantity of hay per acre 2,360 lbs., viz. : where no guano was used, cut 1,800 lbs., and where it was used, cut 4,160 lbs. I should recommend 300 lbs. guano and 300 lbs. gypsum, as a top-dressing, to be applied immediately after the frost leaves the ground, and just previous to a rain. On my wheat and rye I used 700 lbs. guano to the acre, 300 lbs. before sowing, 200 lbs. after it was up two inches, and 200 lbs. in the spring, with an equal quantity of gypsum each time. On other crops used 400 lbs. All my meadow lands which have been top-dressed appear like new meadows. The field where I took off my wheat and rye, the grass is very thick, and 18 inches high.

For oats or barley I consider 224 lbs. to the acre quite sufficient. E. K. Collins.

*Mamaroneck, Oct. 2d,* 1846.

Plowing in Green Crops.—Spending a short time in New York a few days since, I was invited by Mr. J. W. Satterthwait to look at a field recently sown with wheat, in which he had turned under a very heavy crop of green corn that had been sown broadcast with the Eagle plow, No. 25. The operation was performed first by rolling the corn flat on the surface of the ground, and then completely covering it with the plow, after which the wheat was sown and harrowed in the usual way. Mr. S. has promised to let me know the result, when the wheat is harvested, which, if favorable, shall be sent to you for publication. A Traveller

Westphalia Plan of Smoking Hams.—A room in a garret; fire in the cellar; smoke gathered in a tunnel and led to the smoke-rooms by a small pipe; by the time it gets there all the heaviest part of the pyroligneous acid has condensed, and the smoke has become cool. Nothing touches the ham but a pure, light cool smoke, which passes off by a number of small apertures, about as fast as it is applied.

## REVIEW OF THE AUGUST NO. OF THE AGRICULTURIST.

The most reasonable way for you and the readers of the Agriculturist to account for my not reviewing your three preceding Nos. is, to believe your Reviewer to be like a skilful physician, who awaits the operation of an experimental dose of medicine, before repeating it. But some, who presume to know "who the author of Junius is," will tell you, that I have been absent "in the Mexican war;" others, that I have had the "copper fever," and hence have been on a trip to Lake Superior. But, I say, that I shall say nothing, except in the way of some few short comments upon your August No.

*Do not mix your Potatoes*.—Let me advise cultivators not to grow but one kind, except perhaps a few very early ones in the garden. I cannot see the advantage of growing all sorts, since no sort are exempt from the wide-spread disease. I have just received a letter from Indiana, which says the rot has already appeared among them, and in places never before affected.

*Drying Pears*.—By the French method this is too slow an operation for Yankee go-aheadativeness. If dried in a well constructed drying kiln, at an expense so small that it can hardly be counted, they are far superior to dried apples for every-day use. They need not be peeled, and, if small, only cut in halves.

*Drying Cabbage Leaves*, noticed in the Farmers' Club of this city, makes my Dutch blood boil, as an innovation upon the rights and privileges of sour-krout. I would sooner die of scurvy than live upon dried cabbage leaves. Pray what is the advantage of "dried cabbage leaves" over that of sour-krout? I am sure the latter can be taken to sea, and will keep better than the former. If one of my old shipmates is still living, he could give you the history of some choice jars of it which went round the world with him.

*Insects, &c.*—The same letter above spoken of, tells me of a new enemy of the wheat crop in the west, that is very destructive, called the "chinch-bug." My correspondent says that the fall wheat is eaten up in places by them in the fall; spring wheat and oats sadly injured, and sometimes destroyed just before getting ripe. Will the Prairie Farmer give us more information upon this part of the grain grower?

*Self-Acting Machine for Raising Water*.—Is this an improvement upon Montgolfier's water-ram? It does appear to me that if I had a fall of seven feet, affording eight gallons a minute, I could construct a much more effective and cheaper machine than the one described. Then, where is the improvement or advantage of this? There is a water-ram in operation near West Chester, Penn., which did not cost more than two days' work of a common carpenter, or handy man with tools, and it does a better business than the one described by you.

*Flax Machine*.—The best kind is a good threshing machine to take off the seed, without trying to save the lint. The present price of flax will not warrant much attention to its culture, as cotton has taken its place in a great measure; but the seed always commands a remunerating price.

*About Fruit Trees Running out*.—The reason why many persons are led to the belief that grafts decay with the original stock, is, because so many grafts are taken from decaying trees, and carry with them the disease of the parent stock. It is also a fact that seedlings are more hardy and long-lived than grafts; but this furnishes no proof that varieties do run out in consequence of being only propagated by grafting. Still, I am a great friend to seedlings, and would recommend every farmer to continue every year to "know the tree by its fruit," and if not good, cut down the top, and insert some choice grafts. We have certainly departed too far from seedling fruit trees, in some places; while, in others, there seems to be no taste for any other kind except those that come "nateral," and of a size described by friend Greeley, as "*five to the pint*."

*Culture of the Grape*.—Whatever comes from the pen of Nicholas Longworth is sure to be read with interest, and these extracts are particularly so. His experiments appear conclusive to me against the importation of grape-vines. I have no doubt that the cultivation of native varieties can be made more profitable upon hundreds of thousands of acres of our native soil, than any other crop. It is useless to cry out against cultivating grapes for wine, on account of our temperance principles. As well might we cry out against growing corn, because a few wicked men make stinking whiskey of it, which certainly produces more drunkenness than all the grape culture in the world. Something more from Mr. Longworth will add value to your pages.

*Dairy Cows*.—"Almost ashamed to mention the subject," are you, because you have so often endeavored to persuade us of the truth, which we heed not? I think I have read of one before who denied the truth; but when the cock crowed it waked him up to a sense of his duty. Let me crow and wake you up, not to be ashamed to continue to urge upon the notice of all your readers the great importance of improving the quality of their milch cows. I think the article describing Mr. Baker's cows jumps at conclusions rather too much. Because a cow gives 21¼ pounds of milk at one milking, it is not certain that she will give 42½ lbs. each day; nor because Mr. Baker had made 7 or 8,000 lbs. of cheese, is it at all certain that he will make 12 or 13,000 lbs. more. If Mr. Baker, at the close of the season, will give us an exact table of the amount of cheese made—number of cows—how long milked—ages—breed—how kept, &c., &c., it will be very interesting and useful to your readers.

*Glass Milk Pans*.—These may be most excellent, and "with careful usage last a thousand years;" but, with common usage, such as they would surely meet with upon almost every farm, they will be found to cost more than they come to. "Better let them be," and use really good tin ones.

*Disease of Fowls*.—This is an article well worth the cost of the volume to every person that even keeps a hen. If any of your readers have passed it over without notice, I beg them to refer back to it, and learn the true cause of much of the disease of fowls.

*Sheep Husbandry.*—Now, whoever knows Jacob N. Blakeslee as well as I do, will bear witness, that he need not squirm because John Brown treads on some folks' toes. No one will accuse friend Jacob with puffing up a spurious article, because we know that he has a good flock, and his practice shows that he knows how to improve them. But he is quite mistaken in supposing that three-fourths of the lambs will partake of the quality of the fleece of the buck in all cases. In my opinion the quality of the fleece of the lamb will depend much upon the *vigor* of the buck at the period of coition. If the buck is in low condition, or old, or sickly, or lacking vigor from any cause, which is often the case from over-working, the fleeces of the progeny will deteriorate from their sire. I am a strong advocate of cross-breeding; yet I must own that I have seen some good flocks that never had enjoyed that advantage; and I very much doubt whether the mere relationship between the male and female is so deleterious, as the breeding together male and female too nearly allied in form, and of a weak constitution.

*Gardening, No. 6.*—Mr. Talbot says that "cottages and palaces are as much *natural* objects as the nests of birds," which is a new idea, and at first seemed an absurd one; but, upon reflection, I am constrained to coincide with him in opinion. I have heard arguments against improvements in the art and science of agriculture, as "contrary to nature." Now, in fact, this cannot be, for man, in a healthy state of body and mind, is an improving animal; and it is just as much *instinct* for him to build beautiful houses, as it is for birds to build beautiful nests. But there is a difference in men as well as in birds, and there are some turkey buzzards in both classes. The closing line of this article upon gardening, is a text upon which I could write a long sermon. Reader, I pray you look to it, on page 247.

On the same page is another article from Mr. Longworth, upon his favorite theory—practice, rather—a practice, however much it may be scouted by theorists, that has furnished the city of Cincinnati with a greater abundance of delicious strawberries than any other city in the world. And this is owing to the influence of one active mind, and goes to show what influence for good, one good man, and particularly with the aid of a good paper, can effect in agricultural improvement.

The recipe to "make water cool," would be more useful if equally applicable to make the weather cool. We would wrap the whole city in coarse cotton if it would carry off the heat from the inside.

*Hints on the Construction of Farm-Houses.*—This is one of the most sensible articles of its popular and prolific author. "It seems to us worthy of the attention of every one who would render our country life expressive of its true usefulness and beauty." I think, too, that a farm-house should be "*unmistakeably a farm-house,*" not only in its exterior, but in its internal arrangement, which I consider of far more consequence than outward appearance; and the point upon which modern houses show the greatest lack of common sense in the builder. I am wedded to the old-fashioned New England farm-house kitchen, and can never forget the big fire-place and great stone oven; the old settle and long oak table; the great pewter platter and ditto plates; and ditto, too, the old cider mug, while just by the back-door hung

> "The old oaken bucket, the moss-covered bucket that
> hung in the well."

All of which comforts and conveniences of a farm-house kitchen have given way to the little 7 by 9 room and despisable cook-stove; the cut glass and china dishes upon a costly mahogany table; and other *et ceteras* of modern life; none of which show "*the beauty of propriety*" in a farm-house. In fact there is the greatest departure from *propriety* in a very large portion of all modern building, and even in Mr. Downing's figures (59 and 61) in this article, it is not fully visible to my eye. Fig. 61, in particular, lacks elevation from the ground, and both are represented too low in the stories, while the windows have too much of a prison-like appearance. If some person, who is fully capable, would publish a small work of designs, plans, description, and expense of farm buildings, it would become as popular as "Cottage Residences." I don't believe, however, that the talented author of that work is the man for the author of the "New Farm-house Companion." Several designs already published might be embodied. Who shall do it?

*About Manures.*—I beg your pardon, Judge Beatty, but you have got the cart before the horse in the very first sentence of your valuable article; and if said cart were loaded with stone at the creek in front of your house, you never could back up the hill. You say "there is nothing so importan' in the art of agriculture as the *restoration* and *preservation* of the *fertility of the soil.*" Now what I object to is, that you should give the word "*restoration*" the precedence, when, in fact, if the word "preservation" had been kept in view, such a soil as that of "Prospect Hill" would never need the restorative power of manure. And so it is with all the new soil of the wide west. No thought of preserving its natural fertility by a rational system of culture is ever exercised, until at length it falls into the hands of some one who perceives the necessity of resorting to a foreign author, and perhaps imported manures, to learn how to *restore* that which never should have been lost. This is too much like our city system of licensing dens of dissipation, vice, and misery, to *preserve* the morals of our youth in, and then *restoring* them at Blackwell's Island, Sing Sing, or Auburn. Our whole governmental land system is conducted upon the same principle. It holds out inducements for "squatters" to spread over the domain, and skim a little here and there, and then press forward towards the borders of civilisation, leaving behind them their broad tracks of deteriorated soil for some after comer to *restore* to its pristine value, by a system of artificial manuring, that makes such communications as this of your worthy old friend highly valuable.

*Butter-making.*—A few short answers to a few plain short questions.

1st, 2d, 3d, and 4th.—If you have any other than man, or rather woman power, to drive the churn, let the milk sour till just beginning to grow thick, and then churn.

5th.—Sometimes. But don't use too much.

6th.—Yes, most decidedly, and better.

7th.—65 degrees.

8th.—Not at all important

*To make Bacon.*—All right, except the direction to "smoke continually in damp weather," and that is all wrong. At such times the hams will be covered with drops of moisture, which, if smoked in, will give the meat an acrid taste. In packing away, first put the ham in a cheap cotton bag, and then charcoal is better than ashes.

*New York State Ag. Show.*—I have but one comment to make. "The arrangements made by the citizens of Auburn are ample and satisfactory. *There is room, and a hearty welcome for all.*" A similar announcement was made last year. The result proved that strangers, from different portions of our country, walked the streets of Utica in a cold frosty night, for want of shelter, while others paid the most exorbitant tavern bills (*increased* 100 *per cent. for the occasion*), while the fare could not well be worse. I hope the Auburn welcome will be less frosty—that is all.

*Pennock's Grain Planter.*—I have seen it work, and it is what it is recommended to be, except that it will *not* "work so well on hilly and rough land, as smooth." But it would work well on the western prairie land; and in connection with a harvesting machine, which cuts, threshes, winnows, and bags the wheat, what an immense business could be done. The letter heretofore alluded to, from Indiana, informs me that "Mr. Davis, of Au Sable Grove, near Oswego, Illinois," had such a machine in operation upon his farm this season. Will you, my dear Major, give us a detailed account of size, cost, motive power, amount of wheat harvested per day, and if it really works satisfactorily. Don't hesitate; the request comes from an Auld Lang Syne friend, and the information is much needed, We have theory enough of such machines; we want the practice.

*Management of Bees.*—The remarks of Mr. Miner upon this subject seem well calculated to do good. Since I saw "Bevan on the Honey Bee" recommended by some correspondent of this paper, I have bought one, and I much like the hive described by him. As you appear to be a practical man, neighbor Miner, will you tell us if you have any objection to his hives. But if it is required by nature that bees should have a hive no deeper than wide, How does it happen that they flourish so well in a hollow tree? I once saw while on a journey to what was known twenty years ago only as "the West," a hollow beech tree completely filled twenty feet, while the cavity was not over eight inches diameter. There was evidently no "sparseness of working bees" in this natural hive. When "doctors disagree" so much as they do about the right way to manage bees, it is very difficult for us ignorant mortals to tell which is the right way. I fully agree with you in opinion that many of the patent hives are only patent novelties. Hives, with drawers, like those of Mr. Weeks' patent (from which yours seem to be copied), are very convenient when it is desired to sell the honey in the comb, as the drawers are of a convenient size for retailing.

*Ladies' Department.—Knitting.*—This is a very pleasant and well-written article; and if the author is a lady, and single withal, Solus is bound to quit his bachelor's life, and go where he can get his stockings knit *at home.* If he don't I am sure I shall. I agree with (Miss, of course) E. L. that knitting for farmers' boys would be far better than idleness; but I must say, that I do not believe she will live to see such a specimen of universal industry in America. While it is the fashion for farmers' girls to murder music, and daub paper with many colors (calling them pictures), and spin ten times as much street yarn as they knit stocking yarn, and while "*the store*" gives credit, and sells "*so cheap,*" she must never expect to see the boys patiently devoting their time to "knitting work."

*Boys' Department.—Good Tools.*—Most heartily and earnestly do I join in the appeal of "Lert" for good tools for the boys. But while I see men themselves so destitute of judgment, as to continually use the very poorest possible kind of tools, How can I hope to see the boys provided with such as they ought to use? Why, Mr. Editor, I have seen men doing an extensive haying this very month, that don't own a rake nor pitchfork (except a forked stick) in the world. One of my near neighbors has borrowed and kept all this summer, for the use of one of his boys, an old hoe of mine, so poor that I won't use it myself. How can we ever reach such farmers, or effect a reform for the benefit of the boys, while men pursue a course towards themselves so erroneous? However, let us never despair, while we have such good tools as our good pens and types; but keep steadily at work, and be assured that if we cannot induce the present generation of men to furnish good tools for their boys, we may so enlighten the minds of the boys to the wrong practised towards themselves, that, when they become men, they will be sure to furnish their boys with "Good tools"

And here I must close my review of the present month, without being able after jumping over several articles, to reach the "Editor's Table." It is my object to write with a free pen, but not a cavilling or caustic one. I wish my comments to be useful, and to induce further communications, and not deter any one through fear of criticism. I am not a critic—a fault finder. I seek information, and am willing to impart what I possess. If I differ in opinion with those I comment upon, I pray them to reply in the same courteous and pleasant mood that I now feel towards them.

May it be for mutual good that I should continue a REVIEWER.

A READY RULE FOR FARMERS.—We have been frequently asked to explain the difference between the price of wheat per quarter and per barrel The simple rule is this. Multiply the price per quarter by 7, and divide by 12; the result will give the amount per barrel. Thus 56*s.* per quarter multiplied by 7 and divided by 12, gives 32*s.* 8*d.* per barrel.—*Quebec Gazette.*

TO PREVENT THE RAVAGES OF THE CLOTHES MOTH.—You have nothing to do but to place shallow boxes in your drawers, with a little spirit of turpentine in them; and as the turpentine evaporates and penetrates the cloth, the larvæ will protrude, and be found dead on the surface.

## PROPOSED SAFETY LAMP.

Will you permit me the use of your columns, whilst I suggest to some of your manufacturers the policy of manufacturing a lamp suitable to the wants of a cotton planter. I have never seen one, though probably there may be such now in existence. Any one can satisfy himself of the perfect protection from fire, whilst closed, of a lamp made of wire with fine meshes. I believe it was Sir H. Davy who invented the safety lamp for *fire damp* of coal mines, having first proved to his own mind that flame could not ignite without the meshes of a wire. I have tried the same experiment with cotton, and have no fear of throwing a lantern well secured into a pile of cotton with a lighted candle contained therein.

I would advise the lamp to be made very strong, and the bottom heavy, so as not to be easily upset; the wire should be brass or copper, or of some mixed metal that will not rust, and the door be fastened by some strong mode. I presume a lantern about 6 inches square and 10 high could be made from $1 to $2, thus costing no more than the glass ones; and by being made strong, would be more safe, less liable to be broken, and would last much longer. M. W. P.

*Edwards' Depôt, Miss., October*, 1846.

## THE COTTON CROP.

From the tenor of our correspondence, and information obtained from merchants here, who are in daily intercourse with every section of the cotton-growing region, we judge many planters are likely to fall into, if numbers do not already labor under error, with regard to the probable extent of the incoming crop; and as ignorance on the subject will cause disappointment and dissatisfaction with any sale the merchant may be able to effect, and as it is important that those who produce should be correctly informed, we present you with such statistics and estimates, as will, in our judgment, lead to a more correct opinion than many now entertain. We will not enter into any reasoning, or submit any detailed evidence to substantiate our estimates. The details of our estimate will doubtless not accord with the opinion of some, but the aggregate will, we are confident, approximate to the true result.

The following comparative table kept by the New Orleans Price Current, exhibits the receipts of cotton at all the ports during the past season, ending 31st of August. We give this for the purpose of showing the extent of the late and preceding crop, and the relative increase and decrease at the different ports.

| Ports. | Receipts in 1845 and '46. | Receipts in 1844 and '45. | Increase. | Decrease. |
|---|---|---|---|---|
| New Orleans,... | 1,041,393 | 954,285 | 87,108 | |
| Mobile......... | 421,966 | 517,196 | | 95,230 |
| Savannah,....... | 189,076 | 305,016 | | 115,940 |
| Charleston,..... | 251,405 | 426,361 | | 174,956 |
| Florida,......... | 139,755 | 187,769 | | 48,004 |
| Virginia,........ | 15,700 | 25,200 | | 12,299 |
| North Carolina,. | 9,617 | 12,416 | | |
| Other Ports,..... | 21,732 | | | |
| | 2,090,644 | 2,428 243<br>2,090,644 | bales. | 446,429 |
| | Decrease, | 337,599 | | |

It will be perceived the increase at this port was 87,000 bales, or about one-twelfth of a full crop, and the decrease at Mobile, Savannah, Charleston, Florida, Virginia, and North Carolina, was 446,429 bales, or about five-sixteenths of a full crop.

From reliable sources of information, we estimate a full average product.

| | | |
|---|---|---|
| Louisiana to be - - . | 365,000 | bales. |
| Mississippi, - - - - | 470,000 | " |
| Tennessee, - - - | 65,000 | " |
| North Alabama, - - - | 120,000 | " |
| Arkansas, - - - - | 20,000 | " |
| Total, | 1,040,000 | bales, |

which is about the amount received at this port during a good crop year.

We estimate then, in view of the lateness of the crop, destruction by worms and caterpillars, and the above and other data, the production of the United States, in round numbers, as follows:—

| | | | |
|---|---|---|---|
| Production of Louisiana............. | 200,000 | bales, | Crop |
| " " Mississippi............ | 340,000 | " | " |
| " " Tennessee............. | 50,000 | " | " |
| " " North Alabama........ | 90,000 | " | " |
| " " Arkansas.............. | 12,000 | " | " |
| Receipts of New Orleans............ | 692,000 | bales. | |
| " " Mobile.................. | 380,000 | " | |
| " " Savannah............... | 190,000 | " | |
| " " Charleston.............. | 290,000 | " | |
| " " Florida.................. | 150,000 | " | |
| " " Va. and N. Carolina...... | 20,000 | " | |
| " " Texas.................... | 20,000 | " | |
| Total of United States, | 1,742,000 | ba.es. | |

The supply of cotton for 1846 and '47 may be fairly stated thus:—

| | | |
|---|---|---|
| Stock on hand.............................. | 700,000 | bales. |
| Crop of the United States..................... | 1,742,000 | " |
| " Egypt, Brazil, India, &c............ | 450,000 | " |
| Total supply, | 2,892,000 | " |

The consumption in Great Britain for six months in 1845, when prices were very low, was 830,266 bales. For the same period in 1846, when prices were much higher than in 1845, the consumption was 775,509 bales, showing a reduction in consumption of 54,757 bales, as the result between periods of high and low prices. The consumption of the United States during the past year was 422,597 bales.

We may then fairly state the consumption for 1846 and '47, thus:—

| | | |
|---|---|---|
| Great Britain.............................. | 1,550,000 | bales. |
| France, Spain, Continent of Europe, and China.............................. | 800,000 | " |
| North and South America, and West Indies | 500,000 | " |
| Total Consumption, | 2,850,000 | bales. |
| Supply as above, | 2,892,000 | " |
| Excess of supply, | 42,000 | bales. |

Our opinion regarding prices is, that they cannot be forced so high as many anticipate, and as the nature of the case would seem to warrant, from one cause alone, not enumerating others, and that is—cotton is shipped, as a general thing, too much encumbered with bills and cash advances, which tends to force it on the market, and sold at any price buyers may choose to offer, by which means the planter loses his legitimate control.

We quote cotton to-day as follows, and remark that the demand is brisk, and factors ready sellers, viz.: Ordinary, 8¼ *a* 8½; Middling, 8¾ *a* 9; Good middling, 9 *a* 9¼; Middling fair, 9¼ *a* 9½; Fair, 9¾ *a* 10; Good fair, 10½ *a* 11; and Fine, 11½ *a* 12½ cts. These prices will, we think, prevail for some time, and will approximate the average of the season, unless the crop should be much less than our figures indicate. J. A. Ruff & Co.

*New Orleans, Oct. 1st*, 1846.

We place the above valuable estimate of the cotton crop before our readers, as a present guide and future reference. We will add, however, for ourselves, that the weather, since the date of Messrs. Ruff & Co.'s letter, has generally been favorable for the cotton plant, and increased receipts are anticipated. Judging from more recent advices from different parts of the South now before us, we are of opinion that the present crop will not fall short of 1,900,000, and may go up to 2,100,000. As an evidence of this, cotton (at the time we are writing this article, Oct. 19th) is dull in the market, with a slight downward tendency in New York. We may have advices of an advance by the Liverpool steamer, hourly expected, which of course will cause a corresponding advance on this side of the water.

## AMERICAN WINE.

Among the valuable contributions to the late Fair of the American Institute, were fine samples of wine from Mr. N. Longworth, of Cincinnati, and a few from other sections of the Union. These specimens were superior to any before sent for exhibition, showing a decided improvement in this branch of husbandry. Two samples of *pure* wine from Ohio were made from the Catawba grape, and possessed a good body and an excellent flavor, nearly resembling, but much surpassing the dry imported Hock. Another from a native grape, had a fine body, and a peculiar flavor, which use would undoubtedly soon render a favorite. A specimen of pure sweet, or lady's wine, with a small quantity of sugar added to the *must*, possessed a richness and delicacy of flavor similar to the Malmsey, but more delicious, having the taste of a rich, fresh grape. Two other samples, one from a native grape of Alabama, and another from our own State, showed a body and flavor which gives every promise that the subject needs only to be carefully studied and pursued, to reach a point in production when we can soon dispense with the importation of all foreign wine, excepting some peculiar varieties.

American enterprise has not fully considered the peculiar circumstances of soil, manuring, cultivation, &c., which affect the quality of wine. One side of a hill will frequently yield an article totally different in quality from an opposite side, and the character varies with almost every field where the grape is produced. Generally, the best wine is made from grapes raised without manures, or such as are peculiarly mild in their character, and impart no flavor to the fruit. One of the best vineyards of France was seriously deteriorated for years by a dressing with fresh animal or putrescent manures. Some of the most delicate wines are made from grapes manured only from the trimmings of their own vines. The great difficulty generally with American wine is the deficiency of body and richness in the fruit, which renders it necessary to add sugar when this deficiency exists. This is always done even with the best wines abroad, when a cold or wet season impairs the accustomed richness of the fruit. We believe our fruits may be much improved, especially for the purpose of wine, by planting seeds from the best foreign varieties. Out of numerous specimens thus obtained, some would doubtless be found combining great richness and sufficient hardiness to endure our climate. The same care used in the cultivation of the vine, we may be led to expect will result in equal success with the cultivation of the peach and other fruits, which are natives of hot climates, but of which continued careful and scientific propagation has succeeded in producing the choicest kinds in profusion, and hardy enough for our severe climate.

Choice kinds of beverage are also made from other fruits. The pear yields *perry*, from which the most delicious champagne is made, with the addition of a little sugar. The red and white currant yields a good wine when properly treated with the addition of sugar. The quince, when grated with water, and sugar added, undergoes a fermentation, which, if arrested at the proper period by a small addition of brandy, yields an excellent wine. The best cider, with the addition of bruised or cut raisins, will undergo a fermentation, and if properly treated, subsequently yields a wine of excellent flavor and quality. The introduction of some or all of these may be made for our own use with great advantage; and they are certainly far more desirable than the drugged, pernicious stuff which is too often, we may almost say generally, imported for the use of the sick.

## THE POTATO DISEASE.

At a late meeting of the British Association, Mr. Hogan read a communication which had appeared in a continental journal, in which it was recommended that the potato plant should be propagated by seed, as the best means of guarding against the disease.

Dr. Lankaster said, that the number of facts brought forward by Mr. Hogan to substantiate his plan of remedying the potato disease, were quite insufficient. Unless this plan had been extensively adopted, and found to be extensively successful, it would be folly to proceed on it, with the amount of evidence that could be brought against it. With regard to the causes of the disease, he said that there had not been one theory borne out by evidence that would lead to its being adopted by a man of science. That it depended on atmospheric changes was assumed, and there was no proof of it. There was only the coincidence of certain kinds of weather and the disease. That it arose from debility in the potato plant, was also an assumption. No debility had been proved to exist. He thought it right that it should go forth to the world, that the only conclusion yet arrived at was negative, and that the more they investigated the matter, the more evident did it become, that prevailing theories and remedial recommendations were founded on ignorance and assumption

## ENTOMOLOGY.—No. 1.

Much has been said and written upon the various modes of destroying insects injurious to vegetation, and of counteracting in a measure their injurious effects. Were we to enumerate all that have been recommended by various writers on agriculture and gardening, it would surely be a matter of astonishment that the races of injurious insects had not long ago been exterminated, *not* that they should appear in such undue proportion as almost to baffle our exertions to destroy them. It must surely be confessed that in no one department, either of agriculture or gardening, is there such a lamentable deficiency as in this. The reasons for it will be evident, when it is remembered, that in order to check or counteract the operations of these numerous classes of depredators with any success, a knowledge of the peculiar habits and economy of each species is first to be acquired; without this, little can be done of any account, and even the remedies that are applied are used at random. It may be said, and perhaps with some truth, that this subject belongs to the naturalist, and that the agriculturist and gardener should look to him for information, and for effective remedies. The naturalist studies out and explains the animal economy, but it remains for those most interested, those who daily see and feel their effects, to apply remedies which their previous knowledge, obtained from the naturalist, will enable them to do. The agriculturist should devote a portion of his leisure moments in acquiring a perfect knowledge of the general forms which belong to insects, the changes they undergo, and of the primary divisions into which they have been formed by modern naturalists. He should watch their progress, note the manner of their feeding, mark the time they pass in their larva and pupa states, and the period of their becoming perfect insects. He should learn to distinguish between *beneficial* insects whose increase should be promoted, and *injurious* insects whose depredations should be arrested.

In some future communication I may give to your readers, if desirable, a description of the different operations which, in a general way, may be directed to the removal of insects; but, in this, I propose to give a general view of the changes which insects pass through, from the egg to the perfect state; the different appearances which the various tribes assume, before they reach their final development; and the several orders or divisions under which they are classed by modern naturalists.

Insects are distinguished from vertebrated animals by being destitute of a back-bone, and furnished with more than two feet; and from worms, by possessing feet. Most insects are furnished with six feet, but some few have a greater number, as the centipede, wood-louse, &c.

The generality of insects are produced from eggs; some are hatched within the body, and the young are produced in a living state; while most others are hatched from eggs deposited in some secure place, either above or below the surface of the earth. The period required for these eggs to hatch is very variable; in some species this process takes place in a few days, while, with others, it is not accomplished until the following year.

*Of the Larva or Caterpillar.*—This, properly speaking, is the first state or stage in the life of an insect. The forms which distinguish the different tribes are numerous and varied; but none are provided with wings. They are known in common parlance by the names of *grub, caterpillar, maggot, or wire-worm.* All insects in this state feed voraciously, and consequently at this period of their lives they are the most destructive to vegetation. They do not feed on all plants alike; some confine themselves to one particular species, without which they die; others eat the leaves of two or three plants only; while some few are general feeders, attacking almost every kind of plants without discrimination. Hence it is that the larvæ of insects found in flower gardens, are different from those of the fields, kitchen garden, or orchard. The smaller species are generally the most injurious, as they make use of many curious devices to escape observation; some penetrate the heart of the young shoot, or eat their way into the bud; many conceal themselves with great skill, by rolling up the leaves in which they have taken up their residence; and others, again, spin themselves a silken case, where they live in security.

*Of the Pupa or Chrysalis.*—This is the second state, and here they are not to be dreaded, as in general the pupæ are torpid, inactive, and incapable of receiving nourishment. When the larva has attained its growth, it retires either into the earth, or to some secure situation, where the change to the chrysalis state is effected in a few hours, or at most, a few days. The pupæ are as various in their forms and situations as the larvæ. Those of the beetle tribe are found in the earth, or in other substances; they have usually the first rudiments of feet, and of other parts, which become fully developed only in the perfect state. The pupæ of butterflies are entirely naked; and are either suspended by the tail, or attached to trees, walls, &c., by a strong thread. The duration of the chrysalis varies according to the species; and there are many insects which undergo so trifling a change, that it is scarcely perceptible.

*Of the Imago or Winged Form.*—This is the third and last stage in the life of an insect, and the one in which the organs are fully developed, and when it becomes a perfect being, exhibiting those characters which point out its station in nature. The habits and economy of perfect insects, no less than their external appearance, are, in most cases, totally different from those which belong to the previous stages of their existence. The caterpillar, furnished with strong jaws for devouring foliage, is changed into an insect, without any organs for mastication, and which lives only by sucking the nectar of flowers. The duration of this state of the insect is also variable. Most are probably annual, coming from the egg and passing through all their changes within the year. Some, however, as some of the beetle tribe, are long-lived. Moths are biennial, passing the winter in the chrysalis state under ground. Butterflies are mostly annual; although some few survive the winter, and appear early in the spring. The perfect insect of some species exists but a few hours, and seems born only to provide for a continuation of the species; while in the lower state it enjoys an aquatic existence of two or three years. L. T. T.

# Ladies' Department.

## HINTS TO HOUSEKEEPERS.

*Old Lady's Diary, June 20th.*—Having at length finished my preparations, given my last directions to my faithful Betsey, and a farewell look at closets and store-room, I determine to begin my journey to-morrow, and as my path will lie through by-roads and farming districts, I hope to gain many useful hints for the future.

*21st.*—The day has been unusually fine, and the country beautiful beyond description. Wherever the eye rests it is charmed by the busy scene, the hay harvest is in full progress, and every field tells of hopes fulfilled. We have stopped for the night at a good-looking farm-house, claiming on a sign swinging near the door, to be "The Traveller's Rest,"—blessed promise, for a long day's ride, however agreeable, will bring fatigue, and the traveller hails a clean room and comfortable bed as God's own benison, which should be gratefully received; everything in my own room appears comfortable, and invites repose; but from sundry indications around the house, such as patches of chicken feathers that have been carelessly thrown out after the chickens had been picked, a pile of old shavings where a dog and some sheep have been reposing, and also two or three pigs running rather too near the house for my liking, creating suspicions that those daring and troublesome domestic familiars—yclept fleas, may, and will, intrude in the house, which otherwise appears a pattern of domestic comfort and cleanliness.

*22d.*—Morning has dawned at length; my suspicions were, alas, too true, and I have been in the power of the tormentors all night. *Traveller's Rest!* it can only be so to an armadillo or rhinoceros. What the house should be called I leave travellers to decide. I will amuse myself until breakfast time by writing the history of my tormentors, and give it as a hint to my kind entertainers, who, I have no doubt, err only through ignorance.

The flea (*Pulex irritans*), in its perfect state, is too well known to need much comment; their eagerness for blood and their powerful muscular activity, enable them to leap to an amazing distance, while their sharp lancet-like tongue renders them a dread and torment to all within their reach. The female flea deposits from ten to a dozen eggs, of a rounded form and white color; she places them in obscure places, such as cracks in the floor, shavings, saw-dust, or hairs of rugs where dogs are accustomed to lie. From these eggs are hatched long worm-like grubs, destitute of feet, with thirteen distinct segments; the last furnished with two hooks. These larvæ are very active, twisting about in all directions, and feeding upon the fleshy particles of feathers, congealed blood, scraps of raw meat left by the dogs near their kennels, and some say, the blood of animals, but this is doubtful, as they are not found on them. In about twelve days they are fully grown, and ready to enclose themselves in a small cocoon of silk, often covered with dust, and attached to adjoining substances, and should the weather be hot, they pass through the change without the silk cover. The eggs that are not hatched until the end of summer, continue in the worm state all winter. The period of the pupa state varies from eleven to sixteen days. Cleanliness, therefore, both in doors and out is the only remedy for this domestic torment.

My hostess has received the information most kindly. The good man was called in, and has promised to lend his aid, and as soon as the hurry of the farm work is over, the yard is to be well scraped, and the litter to be burned, that the fleas, young and old, may be effectually destroyed; the dog-kennel is to be removed to a greater distance, and a fence made to keep the sheep at a respectful distance from the house. I was then taken into the household councils, and received, in return, useful hints and valuable recipes which I mean to put in practice on my return; the cream cheese was particularly good, and as it is the most economical and easiest recipe I have ever met with, I copy it here. To a quart of sour milk curd, drained to the consistence of soft butter, add a quart of thick rich cream; beat them well together until they are thoroughly mixed, then add a table-spoonful of fine salt; fold a napkin in four folds, and lay it in a large soup plate, into which pour the cream, then fold another napkin and lay it on the top—the mixture will make three or four. Set the plates in a cool place for twenty-four hours; change the napkins and plates every morning for four or five days, when the cheese will be fit for use.

Returning from my visit to the spring-house, I was attracted by a nice intelligent looking girl busily employed mending gum elastic shoes; she was filling up a leisure hour, and preparing for her early walks to the spring-house; her directions are too valuable to be lost. Cut some scraps of gum elastic very fine, and put them into a wide-mouthed vial, on which pour enough oil of sassafras to cover the gum, then stop it tight and leave it until the gum is dissolved, which it will be in two or three days if the mixture is stirred frequently. Wash the gum shoe quite clean, inside and out, and dry it thoroughly, then smear the edges of the slit and the inside of the shoe near it, with the dissolved gum; have a patch of thin gum elastic a little larger than the slit, prepared in the same manner, and place it over the hole on the inside of the shoe, and press it firmly down, placing a weight in the shoe for three or four hours, when the patch will adhere firmly to the shoe.

I then took my leave, promising to pay them a visit next year, provided they get rid of the fleas.

GOD REWARDS VIRTUE AND MAN KNOWLEDGE.—Miss M. E. H., of Poughkeepsie, in leaving the Albany Female Institute, received a gold medal upon which was inscribed the following beautiful and appropriate motto:—

**Dieu récompense la vertu et les hommes savoir.**

A READY MODE OF REMOVING SPERM, TALLOW, OR OIL FROM CLOTH.—Hold the cloth or garment as near as possible to the fire without burning, and the sperm or oil will immediately evaporate away. If a fire is not at hand, light a small roll of paper and hold it for half a minute or so, close to, and directly over, the oil intended to be removed, and the substance in like manner disappears.

## FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamer Caledonia, we are in receipt of our foreign journals up to October 4th.

MARKETS.—*Ashes* were brisk of sale at an advance of 1s. 6d. per cwt., and a prospect of still higher prices. *Cotton* a shade higher, with large sales. The stock on hand at Liverpool on the 1st of October, was 655,000 bales, against 957,000 same period last year. *Beef, Pork,* and *Lard,* no change. *Cheese,* a limited supply, and much wanted. *Butter* of a choice quality the same. *Hemp* scarce at an increased price. *Flour* an advance of 3s. per barrel. *Indian Corn* an advance. *Naval Stores* in good demand, with an upward tendency. *Tar* scarce. *Rice,* large sales. *Tallow* very scarce, and an improvement of 1s. 6d. per cwt. *Tobacco* in fair request. *Wool* firm, at an advance.

*Money* remains unchanged. Rate of discount 3 per cent.

*Crops.*—The spread of the potato disease has been signally arrested, owing to the uncommonly fine autumnal weather. Many more will be saved than was anticipated. Turnips prove a great crop, and will almost entirely supply the place of potatoes for feeding cattle. The latter math of grass and clover is also very abundant. With the exception of last year, the old stock of wheat on hand is larger than it ever has been since the autumn of 1837. The present wheat crop of England is an average one. Taking all these things into consideration, the American merchant should be very cautious about making speculations in grain.

*Imports of American Flour and Indian Corn into England.*—There were imported into Liverpool this year from America, 877,659 barrels of flour, and from Canada, 246,276, in all, 1,123,935 barrels. The increase of Indian corn is remarkable. In 1845 the import was 37,000 quarters—in 1846 192,000 quarters. The stock at present in Liverpool, is 340,000 barrels of flour, free and in bond, and about 200,000 quarters of wheat, free and in bond. The other grain may be estimated at 100,000 quarters. Thus we perceive what a trade the corn trade in Liverpool is likely to be.

*Free Importation of Grain into Frankfort.*—The senate of the free city, Frankfort, has just published a proclamation allowing the importation of corn duty free, into the territory of the republic.

*Rise of Bread.*—On Monday, the full-priced bakers in the metropolis advanced the price of the 4lb. loaf to 8½d., an advance of one halfpenny.

*Produce of a Bushel of Wheat and other Grain in Scotland.*—The following shows the average produce of a bushel of wheat weighing 60 pounds, manufactured at the water of Leith Mills :—25¼ lbs. of fine flour; 22¼ do. of seconds; 1 do. of pollard; 10¼ do. of bran—loss 1¼ lbs.

*A Table of the quantity of Flour and Bread from Grain.*

| | Weight per Bushel in lbs. | Weight of Flour in lbs. | Weight of Bread in lbs. |
|---|---|---|---|
| Wheat, ………… | 60 | 48 | 64 |
| Barley, ………… | 48 | 37¼ | 50 |
| Rye, ………… | 54 | 42 | 56 |
| Oats, ………… | 40 | 22¼ | 30 |
| Peas and Beans‥ | 60 | 51 | 68 |

—*Gardener's Chronicle.*

*A Leaf from Burritt's Journal.*—Elihu Burritt, the learned blacksmith, who is now engaged in making a pedestrian tour in various parts of Europe, is giving the result of his observations in the "Christian Citizen," from which we make the following extracts :—

I have just got out "An Olive Leaf, from the Housewives of America to the Housewives of Great Britain and Ireland, or Recipes for making Various Articles of Food, of Indian Corn Meal," containing all the recipes I received before leaving home from our kind female friends in different parts of the Union—heaven bless them! I have had 2,000 of these Olive Leaves struck off, and intend, in the first place, to send a copy to every newspaper in the realm. I shall have a thousand, all of which I shall put into the hands of those I meet on the road. I have resolved to make it a condition upon which only I consent to be any man's guest, that his wife shall serve up a johnny-cake for breakfast, or an Indian pudding for dinner. I was invited yesterday to a tea party which comes off tonight, where about 30 persons are to be present. I accepted the invitation with the johnny-cake clause, which was readily agreed to by all parties. So tonight the virtues of corn meal will be tested by some of the best livers in Birmingham.

*Monday, July 20th.*—Wrote like a steam engine till noon, to clear from my hands a peck of letters which had accumulated in the course of a day or two, under the auspices of penny postage. After dinner I mounted my staff, and knapsack, to open my pedestrian campaign with an afternoon's walk towards Worcester, which lies twenty-five miles south of Birmingham. Good Joseph Sturge accompanied me a short distance, then bidding me God speed in all the benevolence of his great heart, left me, like Bunyan's pilgrim, to go on my way rejoicing. In a few minutes I had reached the summit of an eminence, upon which Edgebaston Hall stands half hidden and half revealed in the solemn shade of its "ancestral oaks." Descending this, Birmingham, with all its towering factory-chimneys, disappeared, and I found myself surrounded by the beauty and magnificence of the country scenery of England, in its summer portraiture, and summer music; for the very foliage of the trees, that in some cases over-arched the road, seemed to be vocal with the music of singing birds, of the merriest mood. The little things—they must have been small, else I should have seen some of them—owed nature and art all the melody of their throats for such a beautiful world to sing in. In these lovely groves and hedges, and along the green borders of the meadow-brooks, they were out of the reach of the "villainous saltpetre," and of truant schoolboys, affected with the mania of speculation in speckled eggs. So the wee, twittering songsters may sing right on, without a semiquaver of apprehension from these sources of trouble and interruption. Haying time is about half over, and the wheat harvest has just commenced, and the reapers are on the road, sickle in hand, to gather in the crops. What with stopping occasionally to talk with the hay-rickers, or walking a little way up the narrow lanes walled with "living green," to see an unique cottage through the meshes of its ivy veil; or with looking through a hole in the hedge, at a herd of sleek, mottled cows feeding or ruminating gracefully in a new-shorn meadow, I was four hours in making eight miles. I reached the "Rose and Crown" about eight o'clock, where I found everything in keeping with the rigid simplicity of an English country inn. The hostess—for whether married or not, she is the most visible and vigorous person about such an establishment—a neat, ruddy Englishwoman, in a few minutes served up tea with accompaniments of romantic frugality. One of these articles is worthy of notice, as it is common to every table which I have seen thus far in this country. It is a *shaving*, not a slice of buttered bread, not much thicker than a shaving which a fore-plane would take at a stroke from a straight-grained board of pine. A hungry man would eat a square-yard of these buttered bread-shavings at a meal without much impairing his appetite for substances less *superficial.*

# Editor's Table.

A Brief Compend of American Agriculture.—By. R. L. Allen. Saxton & Miles. Pp. 437, 12mo. Price $1. We announced this work as in press, in our August number, and now have the pleasure of adding that it has appeared, and is for sale at most of the book-stores. It is a condensed Encyclopædia of Agriculture. The whole subject of soils, manures, crops, and animals, is treated in as full and comprehensive a manner as the space will permit. The most prominent points are clearly yet succinctly stated, and all is expressed in a style at once concise, and readily comprehended. The author has been a practical farmer and stock-breeder, from boyhood, and consequently understands what he is writing about. He avoids all the fanciful theories of the present day, while he treats of the best practices of husbandry, based upon well authenticated principles, as developed and adopted by the most enlightened modern agriculturists. The work treats fully of Southern as well as Northern agriculture, and will be found equally adapted to any latitude of America. It is emphatically a work for the million, and should be in the hands of every farmer. It is neatly got up, and does the publishers credit.

Manual of Roses; Comprising the most complete History of the Rose, including every class, and all the most admirable varieties that have appeared in Europe and America; together with ample information on their culture and propagation.—By William Robert Prince, Proprietor of the Linnæan Botanic Garden and Nurseries, at Flushing, L. I. New York: Saxton & Miles. Pp. 262, 12mo. The author remarks in his preface, that "During the last ten years the acquisitions made to the Family of Roses, have been so remarkable for their splendor, fragrance, and other qualities, that the public attention has been awakened to their culture in a degree almost unprecedented in the annals of Floriculture. This general regard has given rise to several publications on the subject, in France, England, Belgium, and America, and it has, at the same time, imparted an increased impetus to the culture of the 'Queen of Flowers.' The most prominent of the publications referred to, is from the pen of Mr. T. Rivers, Jr., of England; and it has been the desire of the writer of the present little volume, to combine in its pages, every item of knowledge that is comprised in that estimable work, and to extract from every other source, whatever additional information was attainable; thus forming a concentration of all the information existing in Europe on this interesting subject, and presenting the *toute ensemble* of European attainment as the starting point for American advancement, adding thereto whatever information was existent here in the present stage of the Rose Culture, and which has been derived more particularly from the labors and experience of his father and self, and some few others." The subject the author has chosen is an interesting one, and as far as we are able to judge, the work will prove useful to amateurs and others engaged in floriculture.

A Practical Treatise on Dyeing and Calico Printing; including the latest Inventions and Improvements; also, a Description of the Origin, Manufacture, Uses, and Chemical Properties of the Various Animal, Vegetable, and Mineral Substances employed in these Arts. With an Appendix, comprising Definitions of Chemical Terms; with Tables of Weights, Measures, Thermometers, Hydrometers, &c. By an experienced dyer, assisted by several scientific gentlemen. With Engravings on steel and wood. New York: Harper & Brothers. Pp. 704. 8vo. $3.50. The object of this work is to systematize and reduce the whole theory of dyeing, calico-printing, &c., to the utmost simplicity and accuracy. We have hitherto had no work of a purely practical character in these important arts. In the present production, this is the leading idea of the author—himself many years a practical dyer; and from the vast accumulation of material which he has brought to his aid, it is believed more has been accomplished for the practical purposes of those engaged in these departments of commerce than has ever before been attempted. In addition to a prodigious variety of useful, new, and instructive matter, the work comprises over six hundred original patents, or new inventions, principally of foreign origin, which alone must ever constitute the book, one of singular value and permanent utility.

Portraits of the Presidents.—Philadelphia: C. S. Williams. Large folio. This work is well got up, in lithography, in the form of an Atlas, giving accurate portraits of all the Presidents of the United States, from the commencement of the Government down to the present Administration. For sale by Saxton & Miles, 205 Broadway, N. Y. Price $2.50.

European Agriculture.—By Henry Colman, from personal observation. We are in receipt of Part VII. of Vol. II. of this work. Draining, plowing, irrigation, rotation of crops, soiling, &c., are the contents, and are well and practically treated.

Pictorial History of England.—We have received No. 9 of this excellent work most beautifully illustrated. Harper & Brothers. Price 25 cents. To be finished in about 40 numbers. It is highly useful and agreeable reading.

The Statesmen of the Commonwealth; with a treatise on the Popular Progress in English History. By John Forster. Harper & Brothers, 82 Cliff Street. Price 25 cents per number, to be completed in five numbers. This republication is embellished with portraits of distinguished persons figuring in the history, and elucidated with valuable notes by the Rev. J. O. Choules. It is a work of great merit, and particularly commends itself to the American Reader, as it describes a series of events which had no little influence in the early settlement of our country, and its subsequent career. Some of the actors in this history, like Sir Harry Vane, the Younger, were at one time residents, and held official stations in New England, and other American colonies.

The New England Agricultural Almanac for 1847.—Published by F. Trowbridge, New Haven, Conn. This is prettily illustrated, and well filled with useful matter to the farmer. We can say the same of the American Cultivator's Almanac, published by C. F. Crossman, Rochester, N. Y.

Lectures to Women on Anatomy and Physiology, with an Appendix on Water Cure. By Mary S. Gove. Pp. 301. Price 50 cents. Harper & Brothers, 82 Cliff Street. This work should be carefully read by every woman; for nothing is more true than what the fair authoress asserts, that "whoever shall convince mankind of the necessity and importance of the study of Anatomy and Physiology, and those laws which govern life and health, will do more toward promoting the general good and happiness of our species, than he would if he gave us priceless gems, and gold without measure."

Long Island Horticultural Society Show.—This came off on the 17th, 18th, and 19th of September, in Flushing. We understand there was a good display of fruits and flowers. Owing to imperative engagements elsewhere, we were deprived of the pleasure of attending it.

Something of a Squash.—The Batavia Times has sen a squash, grown in the garden of J. A. Clark, of that village, which measures six feet and six inches in circumference, and weighs 150 1-2 pounds.

# List of Premiums,

*Awarded at the N. Y. State Fair, Auburn, Sept.*, 1846.

### DURHAM CATTLE.

BULLS.—1st, J. M. Sherwood, Auburn, Symmetry, $15; 2d, Wm. K. Grinnell, Ledyard, Albion, $10; 3d, C. S. Button, Newark, Osceola, Diploma.

*Two year-old Bulls.*—1st, H. N. Cary, Marcy, Oregon, $10; 2d, J. B. Packer, Saratoga, Tecumseh, Colman's Tour.

*Yearling Bulls.*—1st, Z. B. Wakeman, Herkimer, Young Meteor, $10; 2d, A. G. Percy, Lyons, Mayflower, Colman's Tour; 3d, J. W. Bacon, Waterloo, Waterloo, Diploma.

*Bull Calves.*—1st, Geo. Vail, Troy, Oscar, Col. Tour; 2d, J. W. Bacon, Waterloo, Diploma.

COWS.—1st, Geo. Vail, Troy, Lady Barrington, $15; 2d, Edw. Wells, Johnstown, Venus, $10; 3d, J. W. Bacon, Waterloo, Red Lily, Diploma.

*Two-year-old Heifers.*—1st, H. N. Cary, Marcy, Rose, $10; 2d, J. M. Sherwood, Lalla Rookh, Col. Tour.

*Yearling Heifers.*—1st, Z. B. Wakeman, Herkimer, Sylvia, $10; 2d, Edward Wells, Johnstown, Cleopatra, Col. Tour.

*Heifer Calves.*—1st, Geo. Vail, Troy, Willie 5th, Col. Tour; 2d, J. W. Bacon, Waterloo, Lady Jane, Diploma.

### HEREFORDS.

BULLS.—1st, T. H. Hyatt, Rochester, $15.

*Young Bulls.*—1st and 2d, Corning & Sotham, Albany, $10, and Diploma.

COWS.—1st and 2d, Corning & Sotham, Albany, $15, and $10.

*Heifers.*—T. H. Hyatt, Rochester, $10; 2d, Edward Wells, Johnstown, Diploma.

### DEVONS.

BULLS.—1st, L. F. Allen, Buffalo, $15; 2d, R. M. Remington, $10.

*Young Bulls.*—Geo. A. Mason, Jordan, $10; 2d, S. M. Brown, Elbridge, Diploma.

COWS.—1st and 2d, H. N. Washbon, Butternutts, $15, and $10.

*Heifers.*—1st, H. N. Washbon, Butternutts, $10; 2d, L. F. Allen, Buffalo, Diploma.

### AYRSHIRES. (None offered.)

### CROSS-BREEDS.

COWS.—1st (not awarded); 2d, H. N. Washbon, Butternutts, $10; 3d, J, W. Bacon, Waterloo, Vol. Trans.

*Two-year-old Heifers.*—1st (not awarded); 2d, Enos T. Throop, Owasco, $10.

*Yearling Heifers.*—1st, C. T. Baldwin, Owasco, $5; 2d, Geo. A. Mason, Jordan, Col. Tour; 3d, S. M. Brown, Elbridge, Vol. Tr.

*Heifer Calves.*—1st, H. N. Washbon, Butternutts, Col. Tour.

Discretionary premium, John G. Wheeler, Sennett, Vol. Trans.

### NATIVES.

COWS.—1st, Ira Hopkins, Auburn, $15; 2d, Charles W. Brown, Sennett, $10.

*Yearling Heifers.*—1st, Geo. A. Mason, Jordan, $5; 2d, Wm. J. Phelps, Owasco, Col. Tour.

*Heifer Calves.*—Nath. Lynch, Sennett, Col. Tour.

### WORKING OXEN.

*Best Ten Yoke.*—1st, J. S. Wadsworth, Geneseo, $20; 2d, J. M. Sherwood, Auburn, $10; 3d, Sheldon, Fellows, and others, Sennett, Vol. Trans.

*Best Single Yoke.*—1st, E. Sheldon, Sennett, $15; 2d, J. S. Wadsworth, Geneseo, $10; 3d, J. M. Sherwood, Auburn, Vol. Trans.

*Three year-old Steers.*—Best yoke; 1st, J. Boies, Homer, $10; 2d, J. S. Wadsworth, Geneseo, $5; 3d, Wm. Hayden, Mentz, Diploma.

*Two-year-old Steers.*—1st, E. Sheldon, Sennett, $10; 2d, J. Boies, Homer, Col. Tour; 3d, Amos Barnes, Sennett, Vol. Tr.

*Yearling Steers.*—1st, Herod Otis, $8; 2d, J. Boies, Homer, Col. Tour.

### FAT CATTLE.

*Best Pair Oxen.*—1st and 2d, J. Boies, Homer, $15 and $10; 3d, A. Pine, Pittstown, Col. Tour.

*Oxen or Steers.*—1st, G. T. Oliphant, Mount Morris, $10; 2d, Henry Willard, Cayuga, $5.

*Cows or Heifers.*—1st, 2d, and 3d, J. S. Wadsworth, Geneseo, $10, $5, and Vol. Trans.

### HORSES—*For all work.*

*Stallions.*—1st, E. Fuller, Canandaigua, $10; 2d, Caleb Jasper, Marcellus, $5; 3d, Isaac Fairchild, Cortland, Diploma; 4th, Joseph Morrison, Ledyard, Vol. Trans.

*Brood Mares.*—1st, David A. Monroe, Camillus, $10; 2d, E. A. Howland, Venice, $5; 3d, Jos. H. Stanley, Cazenovia, Diploma; 4th, J. Boies, Homer, Vol. Trans.

*Discretionary Premiums.*—Reuben Tift, Veteran, Black Prince, Vol. Trans.; Cyrus Breed. Oswego, Golden Farmer, Vol. Trans.; Geo. Fordon, Geneva, Perfection, Vol. Trans.

### FOR DRAUGHT.

*Stallions.*—1st, Benj. Pettit, Bridgwater, $10; 2d, S. F. Sellen, Lansing, $5; 3d, W. Colquhoun, Cornell, Canada, Diploma.

*Mares.*—Jos. Mabbet, Skaneateles, $10; 2d, for a grey mare, owner unknown to the committee, $5; 3d, B. F. Bonney, Hamilton, Diploma.

### BLOOD HORSES.

*Stallions.*—1st, Edward Long. Cambridge, Sir Henry, $10; 2d, S. W. Holmes, Chatauque co., $5; 3d, Nelson Little, Lodi, Culpepper, Diploma; 4th, Mr. Ferguson, Oswego, Kentucky Hunter, Vol. Trans.

*Discretionary Premiums.*—John H. Gardner, Young Emperor, two years old, $10; Ira McGonegal, Virginia, Diploma.

*Mares.*—1st, Joel B. Nott, Albany, $10; 2d, Isaac Fairchild, Cortland, $5; 3d, G. Howland, Diploma; 4th, J. W. Coatman, Aurelius, Vol. Trans.

*Three-year old Stallions.*—1st, Wm. R. Grinnell, Champion, $10; 2d, Henry Tully, Tyre, $5; 3d, Isaac Fairchild, Cortland county, Diploma; 4th, J. C. Burdict, Truxton, Vol. Trans.

*Discretionary Premiums.*—James Black, Bath, Matched Colts, Vol. Trans.

*Geldings.*—1st, A. Merrill, Rome, $5; 2d, to No. 518, owner unknown to the committee, Vol. Trans.

*Matched Horses.*—1st, Amos Lewis, Dryden, $10; 2d, W. A. Dutcher, Milo, Diploma; 3d, Olney Gould, Gaines, 2 Vols. Trans.

### SHEEP.—*Long-Woolled.*

*Bucks.*—1st, Wm. Van Heusen, Champion, $8; 2d, W. H. Sotham, Albany, Col. Tour; 3d, L. F. Allen, Buffalo, Diploma.

*Ewes.*—1st, W. H. Sotham, Albany, $8; 2d, Lewis Taylor, Skaneateles, Col. Tour; 3d, Wm. Buell, Rochester, Diploma

*Lambs.*—L. F. Allen, Buffalo, $5.

### MIDDLE-WOOLLED.—*South Downs.*

*Bucks.*—1st, Z. B. Wakeman, Herkimer, $8; 2d and 3d, J. M. Sherwood, Auburn, Col. Tour and Diploma.

*Ewes.*—1st, J. M. Sherwood, Auburn, $8; 2d, Z. B. Wakeman, Herkimer, Col. Tour.

*Lambs.*—Z. B. Wakeman, Herkimer, $5.

### MERINOS AND THEIR GRADES.

*Bucks.*—1st, Joseph Blakeslee, North Salem, $8; 2d, J. L. Randall, Col. Tour; 3d, Wm. Howard, Diploma.

*Ewes.*—1st, J. M. Sherwood, Auburn, $8; 2d, J. L. Randall, Col. Tour; 3d, Wm. Howard, Diploma.

*Lambs.*—Reed Burritt, Burdett, $5.

### SAXONS AND THEIR GRADES.

*Bucks.*—1st, S. B. Crocker, Vernon, $8; 2d and 3d, S. H. Church, Vernon, Col. Tour, and Diploma.

*Ewes.*—1st, S. H. Crocker, Vernon, $8; 2d and 3d, S. B. Crocker, Col. Tour, and Diploma.

### FAT SHEEP.

J. W. Collins, E. Bloomfield, $10.

### SWINE.

*Boars.*—1st, C. R. Nichols, Darien, $10; 2d, G. V. Sackett, Seneca Falls, Col. Tour; 3d, H. Hubbard, Canandaigua, Diploma; 4th, Geo. Carlisle, Bethany, Diploma.

*Sows.*—1st, Wm. Howard, Owasco, $10; 2d, A. Shaw, Scipio, Col. Tour; 3d, E. T. Throop, Owasco, Diploma.

*Pigs.*—1st, Wm. Howard. Owasco, Col. Tour; 2d, Chester Moses, Skaneateles, Diploma; A. Shaw, Scipio, ditto; C. R. Nichols, Darien, ditto.

### POULTRY.

*Dorkings.*—L. F. Allen, Buffalo, $3; *Polands*—Franklin C. Moses, Skaneateles, $3; *Large Fowls*—J. F. Osborn, Mentz, $3; *Ducks*—J. F. Osborn, $3; *Turkeys*—M. B. Converse, Mentz, $3; *Greatest Variety Fowls*—Sam. R. Osborn, Flemming, $10.

### PLOWS.

1st, Howland Delano, Mottville, Certificate; 2d, J. B Gaylord, Auburn, Diploma; 3d, David Anthony, Springfield, Vol. Trans.

### WAGONS, HARROWS, &c.

O. Barton, Onondaga, Silver Medal.

*Best Cultivator.*—D. B. Rogers, Seneca Falls, Silver Medal.

*Best Fanning Mill.*—1st, E. Taylor, Rochester, Certificate (Grant's Patent); 2d, D. Clow, Mentz, Silver Medal; 3d, John Gilbert, Diploma; 4th, Orris Heffron, Poplar Ridge, Vol. Tr.

*Best Horse-Power.*—Richard Montgomery, Onondaga, Silver Medal; 2d, John A. Fitts, Rochester, Diploma; 3d, Buell & Nichols, Cazenovia, Vol. Trans.

*Best Corn Stalk Cutter.*—1st, J. C. Rich, Monroe, Silver Medal; 2d, C. Burnett, Lyons, Diploma; 3d, George Catchpole, Geneva, Vol. Trans.

*Best Threshing-Machine and Separator.*—1st, John A. Pitts, Rochester, Silver Medal; 2d, E. Hicks, Wyoming, Diploma; 3d, Buell & Nichols, Cazenovia, Vol. Trans.

*Drill Barrow or Corn Planter.*—A. M. Badger, Rochester, Diploma.

*Best Straw Cutter.*—1st, E. Lockwood, Norwalk, Conn., Silver Medal; 2d, J. C. Rich, Monroe, Diploma; 3d, J. W. Webb, Ledyard, Vol. Trans.

*Best Corn and Cob Crusher.*—John A. Pitts, Rochester Certificate.

*Horse Rakes.*—L. M. Whitman, Pike, Diploma.

*Hay and Manure Forks.*—Barton & Belden, Rochester, Dip.

*Axes.*—Barton & Belden, Rochester, Diploma.

*Hoes.*—R. M. Hine, Throopsville, Diploma.

*Greatest Collection of Agricultural Implements.*—F. Waters, Chautauque, Silver Medal.

*Corn Sheller.*—T. D. Burrall, Geneva, Diploma.

### BUTTER.

*From 5 Cows in 30 days.*—1st, E. R. Evans, Marcy, Oneida co., $25; 2d, O. C. Crocker, Union, Broome co., $15.

*Best 25 pounds made in June.*—1st, Joseph Baker, Otisco, Onon. co., $10; 2d, Wm. Ottley, Phelps, Ontario, Col. Tour; 3d, Elisha Sheldon, Homer, Cortland, Vol. Trans.

*Best 50 pounds made at any time.*—1st, Joseph Baker, Otisco, $15; 2d, O. C. Crocker, Union, Col. Tour; 3d, Abram Adams, Preble, Silver Medal; 4th, Elisha Sheldon, Homer, Diploma; 5th, John G. Wheeler, Sennett, Vol. Trans.

### CHEESE.

*Best 100 pounds, one year old and over.*—1st, No award; 2d, ditto; 3d, Robert Eells, Oneida co., Silver Medal; 4th, William Ottley, Ontario, Dip.; 5th, H. N. Washburn, Otsego, Vol. Tr.

*Best less than one year old.*—1st, No award; 2d, Robert Eells, Col. Tour; 3d, Wm. Ottley, Silver Medal; 4th, Isaac Bucklin, Cayuga co., Diploma; 5th, Anthony Shaw, Scipio, Vol. Trans.

### SUGAR.

*Best Maple.*—1st, Benj. Gauss, Jr., Bloomfield, Ontario, $10; 2d, Moses Eames, Rutland, Jefferson co., $5; 3d, Erastus Bigelow, Sangerfield, Diploma; 4th, U. E. Talman, Tully, Onondaga, Vol. Trans.

*Corn Stalk.*—None offered.

### SILKS, &c.

*Manufactured.*—Clark Avery, Perryville, $15.

*Sewing.*—1st, Clark Avery, $10; 2d, Joseph Belcher, $5; 3d, David Irish, Diploma; 4th, N. M. Coburn, Vol. Trans.

*Reeled.*—1st, Joseph Belcher, $5; 2d, N. M. Coburn, Diploma; 3d, David Irish, Vol. Trans.

*Cocoons.*—1st, N. M. Coburn, $10; 2d, Joseph Belcher, Colman's Tour.

### DOMESTIC MANUFACTURES.

*Woollen Blankets.*—1st, Wm. Ottley, Phelps, $5; 2d, F. P. Brown, Elbridge, $4; 3d, Geo. W. Henry, Martinsburgh, $3.

*Flannels.*—1st, Albert L. White, $5; 2d, Clark Avery, $4; 3d, Wm. Ottley, $3.

*Woollen Cloths.*—1st, M. W. Priest, Little Falls, $5; 2d, O. Kellogg, Skaneateles, $4; 3d, Ditto, $3.

*Woollen Carpets.*—1st, Jonathan Conger, Groton, $5; 2d, No. 474, Unknown, $4; 3d, D. C. Monroe, Elbridge, Cayuga co., $3.

*Tow Cloth.*—A. Shaw, Scipio, Cayuga county, $3.

*Linen.*—1st, A. Pine, Pittstown, $5; 2d, F. P. Brown, Elbridge, $4; 3d, E. W. Bateman, Venice, $3.

*Linen Diaper.*—1st, A. Pine, Pittstown, $5; 2d, Margaret Jeffery, Truxton, $4; 3d, George W. Henry, Martinsburgh, $3.

*Hearth Rugs.*—1st, Hotchkiss & Smith, Auburn, $5; 2d, J. Barber, ditto, $4; 3d, Miss A. R. Smith, Vernon, $3.

*Double Carpet Coverlets.*—1st, Caroline C. Jones, Westmoreland, $4; 2d, C. R. Nichols, Darien, $3; 3d, C. Britt, Perryville, $2; 4th, J. Conger, Groton, Vol. Trans.

*Woollen Stockings.*—1st, Margaret Jeffrey, Truxton, $2; 2d, Mrs. Greenleaf, Watertown, Vol. Trans.; 3d, David Thomas, Aurora, Diploma.

*Wove Woollen Stockings.*—Miss L. C. Morris, Auburn, $2.

*Linen Thread.*—R. S. Ransom, Perryville, $2.

*Kersey.*—1st, C. Britt, Perryville, $3; 2d, R. S. Ransom, ditto, $2; 3d, A. Pine, Pittstown, Vol. Trans.

*Linen Knit Stockings.*—1st, Chester Gridley, Sennett, Cayuga county, $2; 2d, E. W. Bateman, Venice, Cayuga county, Vol. Trans.; 3, J. L. Eastman, Lodi, Diploma.

*Knit Cotton Stockings.*—1st, L. C. Morris, Auburn, $2; 2d, Ditto, Vol. Trans.; 3d, Ditto, Diploma.

*Bed Quilts.*—1st, Rebecca Johnson, Syracuse, $5; L. C. Morris, Auburn, $3; 3d, B. F. Hawks, Phelps, $2.

*Rag Carpets.*—1st, William Ranney, Elbridge, Onon., $3; 2d, George Hawley, Auburn, Cayuga, $2; 3d, Abram Adams, Preble, Cortland, Vol. Trans.; 4th, Jonathan Paddock, Aurelius, Cayuga, Vol. Trans.

### FRUIT. *Class I.*

*Table Apples.*—1st, Benjamin Hodge, Buffalo, $5; 2d, A. Bryant & Son, ditto, $3; 3d, C. Parvis, Greece, Monroe county, Vol. Trans.

*Best twelve Sorts ditto.*—J. C. Hastings, Clinton, $3.

*Seedling Apple.*—Isaac Hildreth, Geneva, $3.

*Table Pears.*—1st. Elwanger & Barry, Rochester, $3; 2d, Benjamin Hodge, Buffalo, Vol. Trans.

*Winter Pears.*—Elwanger & Barry, Vol. Trans.

*Quinces.*—George Underwood, Auburn, Vol. Trans.

*Native Grapes.*—Edward Thomas, Geneva, Vol. Trans.

*Foreign Grapes.*—Chester Parsons, Skaneateles Vol. Trans.

### CLASS II.

*Best Peaches.*—Bissell &Hoaker, Rochester, Vol. Trans.

*Plums.*—G. F. Pratt, Buffalo, Vol. Trans.

### FLOWERS.

*Greatest Variety.*—1st, James Wilson, Albany, Silver Medal; 2d, I. W. Jackson, Schenectady, Diploma; 3d, Elwanger & Barry, Rochester, Vol. Trans.

*Seedling Dahlias.*—1st, Edward Thomas, Geneva, Diploma; 2d, Ditto, Diploma.

*Best 25 varieties Dahlias.*—1st, James Wilson, Albany, Silver Medal; 2d, Elwanger & Barry, Rochester, Diploma; 3d, Isaac W. Jackson, Schenectady, Vol. Trans.

*Floral Ornaments.*—James Wilson, Albany, Silver Medal.

*Boquets.*—1st, James Wilson, Albany, Col. Tour; 2d, L. Menard, ditto, Diploma; 3d, Ditto, ditto, Vol. Trans.

*Green-House Plants.*—1st, Mrs. M. Miller, Auburn, Diploma; 2d, Miss H. C. Moses, Skaneateles, Vol. Trans.

*German Astor.*—I. W. Jackson, Schenectady, Vol. Trans.

*Best 12 Roses.*—1st, James Wilson, Albany, Diploma; 2d. Elwanger & Barry, Rochester, Vol. Trans.

### FLORAL ORNAMENTS.

*Discretionary Premiums.*—Mrs. E. T. Troop Martin, Willow Brook, Cayuga county, Diploma; Elihu Tyler, Buffalo, ditto; Elwanger & Barry, Rochester, ditto; Professor Coppock, Horticultural Society, Buffalo, ditto; William Webb, Buffalo, ditto; Benjamin Hodge, rare and beautiful roses, ditto; Henry Morgan Aurora, ditto.

### VEGETABLES.

*Water Melons.*—H. N. Langworthy, Rochester, Col. Tour.

*Musk Melons.*—George Cooper, Irondequoit, Monroe county Vol. Trans.

*White Carrots.*—C. F. Crossman, Rochester, Vol. Trans.

*Field Carrots.*—Joseph H. Osborn, Mentz, Cayuga county Vol. Trans.

*Beets (Long Blood).*—C. F. Crossman, Vol. Trans

*White Parsnips.*—George Cooper, Vol. Trans.

*White Table Turnips.*—George Cooper, ditto.

*Cabbages*—George Cooper, Vol. Trans.

*Tomatos.*—C. F. Crossman, ditto.

*Egg Plant.*—C. F. Crossman, ditto.

*Sweet Potato.*—H. G. Dickinson, ditto.

*Lima Beans.*—Ira Hopkins, Auburn, ditto.

*Pursley.*—George Cooper, ditto.

*Squashes.*—H. G. Dickinson, one weighing 80 lbs. Vol. Trans.; Hiram Hubbard, Canandaigua, six from one seed weighed 574 pounds, one of which weighed 146 3-4 pounds, Vol. Trans.

*Pumpkins.*—C. Moses, Skaneateles, ditto.

*Seed Corn.*—Chester Gridley, Sennett, Cayuga county, Vol. Trans.; Dr. John Thompson, Ledyard, ditto, ditto; Joseph F Osborn, Mentz, ditto, ditto.

*Mangel Wurtzel.*—James Rattle, Sennett, Cayuga co., ditto.

*Sugar Beets.*—Joseph F. Osborn, Cayuga county, ditto. *Discretionary Premium* for beets, carrots, and millet, Thomas Ogden, Vol. Trans.; Ditto for sweet corn and red peppers, A. Custin, do.

*Wheat.*—R. Harmon, Wheatland, three varieties Vol. Trans.; Martin Smith, white flint, $5.

*Best Table Potatoes.*—1st, C. R. Nichols, Mercers, Genesee county, $2; 2d, C. F. Crossman, Long Pink Eye, Monroe county, Vol. Trans.; 3d, Joseph F. Osburn, ditto, Cayuga county, ditto.

*Seedling Potatoes.*—N. S. Smith, Buffalo, Pink Eye, $5; Ditto, 4 varieties, Colman's Tour.

*Teazles.*—Richard Abbey, Seneca county, Vol. Tr.

*Red Peppers.*—Richard Abbey, five boxes, several varieties, Vol. Trans.

### BEE-HIVES.

Aaron Colton, Pittsfield, Vermont, $5; Wm. R. Kelsey, Starkey, Yates county, Vol. Trans.

### ON STOVES, &c.

*For Cooking.*—1st, Jackson & Phelps, Syracuse (Buck, No. 8), for Hotels, Diploma; 2d, D. E. Stafford (Telegraph), Silver Medal; 3d, Anthony Davy & Co., Troy, six sizes (Washington Air-Tight) Diploma.

*Parlor Air-Tight.*—1st, Atwood, Cole & Crane, Silver Medal; 2d, Wager & Dater, Diploma; 3d, J. S. & M. Peckham, Dip.

*Stove Hollow Ware.*— —— Hoag, Schenectady (5 pieces), Vol. Trans.

### PAINTINGS AND DRAWINGS.

W. M. Beauchamp, Skaneateles, Diploma; Pencil Drawing by Miss Cox, ditto; Crayon Drawing by Miss Conkling, ditto.

### IMPLEMENTS AND MACHINERY.

*Reaping Machine.*—C. H. McCormick, Rockbridge county Va., $5.

*Stump Machine.*—R. H. Hall, Owego, $10.

*Grain Planter and Ash-Sowing Machine.*—P. Seymour, East Bloomfield, Ontario county, $5.

*Sowing Machine.*—W. H. Jones, Bridgeport, Conn., Diploma.

*Flax-Pulling Machine.*—H. Hill, Diploma.

*Bells.*—A. J. Meneely, West Troy, Diploma.

*Door Locks and Bell Pulls.*—Dana & Price, Utica, $5.

*Rockaway Buggies.*—Allen & Carpenter, Groton, Tompkins county, $5.

*Buggy Wagons and Sleighs.*—James Gould & Co., Albany, Dip.

*Double Acting Force Pump.*—1st, Phelps & Messenger, Oneida, $3; 2d, H. G. Madison, Syracuse, Diploma.

*Fire Engine.*—Calvin Young (16 years old), Auburn, $5.

*Balance-Slide Farm Gate.*—1st, H. White, Kirkland, Oneida county, $3; 2d, S. Benham, Camillus, Onondaga county, Dip.

*Portable Bedstead.*—James Hazlett, Utica, $3.

*Refrigerator and a Shower Bath.*—E. Taylor, Rochester, $5.

*Horse Yoke.*—E. H. Danforth, Busti, Chautauque county, $3.

*Leather-Creasing Machine.*—S. Wilson, Dansville, Livingston county, $3.

*Imitation Graining.*—F. Van Doorn, Rochester, $3.

*Smut Machine.*—Wilson & McCullogh, Syracuse, Diploma.

*Buckwheat Cleaner.*—Daniel Pease, Jr., Diploma.

*Mill for Sawing Siding.*—Nelson Peck, Lyons, Wayne county, Diploma.

*Portable Grist Mill.*—J. H. Bristol (Fitzgerald's Patent), Dip.

*Hay Scales.*—J. F. Keeler, Cazenovia, $5.

*Ox Yoke.*—Elon Sheldon, Sennett, Cayuga county, Diploma.

*Buggy Wagons and Chariotees.*—John W. Bates, Utica, Dip.

*Wagon Wheel.*—J. S. Royce, Cuylerville, Livingston co., Dip.

*Compound Carriage Wheel.*—Norman Rude, Onondaga, $3.

*Self-Acting Cheese Press.*—W. C. Pratt, Weedsport, Cayuga county, Diploma.

*Seraphines.*—Upton & Miller, Rochester, Diploma.

*Whips.*—W. R. Strong, Rochester, Diploma.

*Sofa and Card Tables.*—Charles Rust & Son, Syracuse, Dip.

*Portable Hunting and Fishing Case.*—William Gardner, Geneva, Diploma.

*Stove Pattern Carving.*—J. F. Seymour, Utica, Diploma.

*Boot Crimping Machine.*—J. H. Ladne, Cato, Cayuga county.

*Mustard and Paste Blacking.*—D. Murdock & Co., Albany, Diploma.

*Saddlery Hardware.*—Kasson Fraser, Syracuse, $3.

*Harness and Bridles.*—1st, P. Williamson, Skaneateles, Diploma; 2d, F. A. Keeler, Albany, Diploma; 3d, C. H. Wheaton, Homer, Cortland county.

*Butter Firkins.*—Abram Sherman, Summer Hill, Cay. co. $2.

*Model Steam Engine.*—D. D. R. Ormsby, Homer, Cortland co., Diploma.

*Card Printing Press.*—F. A. Marsh, Diploma.

*Hand-Power Planing Machine.*—Andrew Parker, Auburn, Dip.

*Morticing Machine.*—Benjamin H. Otis, Syracuse, Dip.

*Revolving Bellows.*—Jerome Darling, Adrian, Michigan, Dip.

*Drill-Sawing Machine.*—Pennock & Pierce, Chester county, Penn., Diploma.

*Sculpture in Wood (very interesting), and showing great promise.*—J. Sangster, Buffalo, a boy 14 years of age, $5.

*Sash Lock.*—James Jones, Rochester, Diploma.

### MISCELLANEOUS FANCY ARTICLES.

*Shell Work.*—Miss L. C. Morris, Auburn, $3.

*Wax Work.*—Miss L. C. Morris, Auburn, $5, and Diploma; Miss Mary F. Snow, $3.

*Needlework—Fire Screens.*—Delia M. Colvin, Syracuse, $5; Lydia S. Russell, $5.

*Ottoman Covers.*—Delia M. Colvin, $3; F. E. Thornton, Fleming, $3; Mrs. N. M. Stephens, Elbridge, $3, and Diploma.

*Table Covers.*—Mrs. Geo. W. Patterson, Chautauque county, $4, and Diploma.

*Group of Flowers in Worsted.*—Mrs. John Porter, Auburn, $3.

*Lamp Mats.*—Mrs. W. G. Pierce, Auburn, $3; Mrs. Brockway, Brockport, Monroe county, for variety of Worsted work, Dip.

*Worsted Rugs.*—Mrs. Lucas, Auburn, $4; Mrs. Roxana Cottle Hurston, Buffalo, $2, and Diploma; Mrs. Cornelius Walcott, Elbridge (uncut), $3.

*Fancy Chairs.*—Mrs. Sarah Harbottle, Auburn, $1; Mrs. Joseph Sabin, Syracuse, Diploma; Ladies of Utica Female Academy, $3 and Diploma.

*Handkerchiefs, Caps, &c.*—Mrs. V. R. Voorhees, Amsterdam, $3; Miss Abby Allin, Camden, Oneida, $2; Miss Green (child's dress), Jordan, Cayuga county, $1.

*Fancy Painting and Needlework.*—Mrs. Wm. A. Dutcher, Milo, $3, and Diploma.

*Embroidered Shawls.*—Mrs. Alanson Benson, Skaneateles, $3; Mrs. John G. Wheeler (Thibet cloth), Sennett, $3.

### PLOWING MATCH.

1st, David Cossit, Onondaga, $15; 2d, Azariah Letts, Ulysses, Tompkins, $12; 3d, Henry Willard, Cayuga, $10; 4th, L. C. Pratt, Salina, Onondaga, Vol. Tr.; 5th, J. B. Gaylord, Auburn, Cayuga, county, Col. Tour.

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**Notice.**—Persons entitled to Cash Premiums, can draw on J. M. D. McIntyre, Esq., Treasurer, Albany, or apply personally; and for Medals, Books, or Diplomas, on Joel B. Nott, Esq., Corresponding Secretary, Albany.

## PREMIUMS AWARDED

AT THE

## Nineteenth Fair of the American Institute.

### NATIVE STOCK.

For the best Native Cow, Whitson Jarvis, Brooklyn, Silver Cup, $10; Second best, Le Grand Bradley, Hamden, Ct., Silver Medal, $5.

Best Native Heifer, Josiah Purdy, Jr., Rye, Westchester co., Silver Medal, $5.

### IMPROVED STOCK.

Best Durham Bull, over 2 years old, Bell & Morris, Westchester county, Silver Cup, $15.

Best Devon bull, 2 years old and over, Roswell L. Colt, Paterson, N. J., Silver Cup, $15.

Best Ayrshire bull, 2 years old and over, Roswell L. Colt, Silver Cup, $15.

Best Durham bull calf, Bell & Morris, Silver Medal, $5.

Best Ayrshire bull calf, Roswell L. Colt, Silver Medal, $5.

Best Durham cow, John A. Pool, New Brunswick, Silver Cup, $15.

Best Devon cow, R. L. Colt, Paterson, Silver Cup, $15.

Best Ayrshire cow, Thomas Ellison, New Windsor, Silver Cup, $15.

Best Alderney cow, R. L. Colt, Silver Cup, $15.

Best Durham heifer, over 1 year, Thomas Addis Emmet, New York, Silver Cup, $8.

Best Devon heifer, over 1 year, J. N. Blakeslee, Watertown, Conn., Silver Cup, $8.

Best Durham heifer calf (bred by George Vail, Troy), Samuel Allen, New York, Silver Medal, $5.

Best bull, over 1 year, Wm. Whitney, Morristown, N. J., Silver Cup, $8.

Best Devon bull, over 1 year, R. L. Colt, Silver Cup, $8.

Best grade bull, over 2 years old, Lewis G. Morris, Fordham, Silver Cup, $10.

Best grade bull, over 1 year old, Jas. Bathgate, Fordham, Silver Cup, $6.

Best grade bull calf, James Weeden, Newtown, L. I., Silver Medal, $5.

Best grade cow, Charles Bathgate, Westchester county, Silver Cup, $10.

Best grade heifer, over 1 year, Lewis G. Morris, Fordham, Silver Cup, $6.

Best grade heifer calf, James Bathgate, Fordham, Silv. Med. $5.

### WORKING OXEN.

Best yoke working cattle, Curtis Bacon, Middletown, Ct., Silver Cup, $15; Second best ditto, John B. Davis, Derby, Ct., Silver Medal, $5.

### FAT CATTLE.

Best pair fat oxen, S. Strong, Milford, Ct., Silver Cup, $15.

Fat steer, Joseph F. French, Silver Medal, $5.

### SHEEP.

Merino buck, J. N. Blakeslee, Watertown, Ct., Silver Cup, $8.

3 best Merino ewes, J. N. Blakeslee, Silver Cup, $8.

Saxon Merino buck, Hiram Whitlock, Watertown, Ct., Silver Cup, $8.

Saxon Merino ewes, the same, Silver Cup, $8.

Best Leicester buck, Chas. Bathgate, Morrisania, Silv. Cup, $8.

3 best Leicester ewes, Benj. Florence, Mamaroneck, N. Y., Silver Cup, $8.

3 Best Leicester lambs, Bell & Norris, Morrisania, Silver Medal, $5.

Best Southdown buck, R. Bolton, Jr., East Chester, Silver Cup, $8.

Best Southdown lambs, R. Bolton, Jr., Silver Cup, $8.

Improved Bakewell Sheep, Charles Blackbourne, Prospect Hill, $6.

### FARMS.

Gold Medals were awarded to the Farm of Gen. J. Johnson, East Brooklyn, and the Farm of the Corporation of the city of New York, on Blackwell's Island, under the Superintendence of Moses G. Leonard.

Silver Cups were awarded for Farms, to Wm. J. Townsend, Astoria; Samuel B. Townsend, Newtown; David S. Mills, Newtown; and Governeur Morris, Morrisania.

### AGRICULTURAL IMPLEMENTS.

For the largest exhibition of Agricultural Implements, A. B. Allen, New York, Silver Medal.

### AGRICULTURAL PRODUCTIONS.

*Native Wine.*—For a fine light wine, called Ladies' Wine, N. Longworth, Cincinnati, Ohio, Silver Cup, $10.

For a sample of Wine, C. A. Peabody, Columbus, Geo., Silver Medal.

For the best Native Grapes, Dr. R. T. Underhill, Croton Point, Silver Medal.

For the Best Foreign Variety of Grapes, R. L. Colt, Paterson, N. J., Silver Medal.

## REVIEW OF THE MARKET.

### PRICES CURRENT IN NEW YORK, OCTOBER 24, 1846.

| | | | | |
|---|---|---|---|---|
| ASHES, Pots, | per 100 lbs. | $4 50 | to | $4 56 |
| Pearls, | do. | 5 00 | " | 5 66 |
| BALE ROPE, | lb. | 5 | " | 7 |
| BARK, Quercitron, | ton, | 26 00 | " | 26 50 |
| BEANS, White, | bush. | 1 12 | " | 1 25 |
| BEESWAX, Am. Yellow, | lb. | 26 | " | 30 |
| BOLT ROPE, | do. | 12 | " | 13 |
| BONES, ground, | bush. | 40 | " | 55 |
| BRISTLES, American, | lb. | 25 | " | 65 |
| BUTTER, Table, | do. | 16 | " | 25 |
| Shipping, | do. | 9 | " | 13 |
| CANDLES, Mould, Tallow, | do. | 9 | " | 11 |
| Sperm, | do. | 25 | " | 38 |
| Stearic, | do. | 20 | " | 25 |
| CHEESE, | do. | 5 | " | 10 |
| COAL, Anthracite, | 2000 lbs. | 5 00 | " | 6 00 |
| CORDAGE, American, | lb. | 11 | " | 12 |
| COTTON, | do. | 7 | " | 12 |
| COTTON BAGGING, Amer. hemp, | yard, | 13 | " | 14 |
| Kentucky, | do. | 11 | " | 12 |
| FEATHERS, | lb. | 25 | " | 34 |
| FLAX, American, | do. | 7 | " | 8 |
| FLOUR, Northern and Western, | bbl. | 5 88 | " | 6 12 |
| Fancy, | do. | 6 00 | " | 6 50 |
| Southern, | do. | 5 88 | " | 6 12 |
| Richmond City Mills, | do. | 7 00 | " | 7 12 |
| Rye, | do. | 4 44 | " | 4 50 |
| GRAIN—Wheat, Western, | bush. | 1 15 | " | 1 30 |
| Southern | do. | 1 05 | " | 1 15 |
| Rye, | do. | 75 | " | 80 |
| Corn, Northern, | do. | 73 | " | 75 |
| Southern, | do. | 71 | " | 72 |
| Barley, | do. | 61 | " | 63 |
| Oats, Northern, | do. | 34 | " | 36 |
| Southern, | do. | 30 | " | 33 |
| GUANO, | do. | 2 00 | " | 3 00 |
| HAY, in bales, | 100 lbs | 45 | " | 50 |
| HEMP, Russia, clean, | ton. | 200 00 | " | 210 00 |
| American, water-rotted, | do. | 105 00 | " | 185 00 |
| American, dew-rotted, | do. | 75 00 | " | 125 00 |
| HIDES, Dry Southern, | do. | 7 | " | 8½ |
| HOPS, | lb. | 10 | " | 15 |
| HORNS, | 100. | 1 00 | " | 7 00 |
| LEAD, pig, | do. | 4 25 | " | 4 31 |
| Sheet and bar, | lb. | 4 | " | 5 |
| MEAL, Corn, | bbl. | 3 50 | " | 3 75 |
| Corn, | hhd. | 15 50 | " | 16 00 |
| MOLASSES, New Orleans, | gal. | 28 | " | 32 |
| MUSTARD, American, | lb. | 16 | " | 31 |
| NAVAL STORES—Tar, | bbl. | 2 00 | " | 2 25 |
| Pitch, | do | 1 00 | " | 1 06 |
| Rosin, | do. | 55 | " | 65 |
| Turpentine, | do. | 3 50 | " | 3 56 |
| Spirits Turpentine, Southern, | gal. | 46 | " | 50 |
| OIL, Linseed, American, | do. | 60 | " | 63 |
| Castor, | do. | 55 | " | 70 |
| Lard, | do. | 65 | " | 70 |
| OIL CAKE, | 100 lbs. | 1 25 | " | 1 50 |
| PEAS, Field, | bush. | 1 25 | " | 1 50 |
| PLASTER OF PARIS, | ton. | 2 25 | " | 3 00 |
| Ground, in bbls., | of 300 lbs. | 1 12 | " | 1 25 |
| PROVISIONS—Beef, Mess, | bbl. | 7 90 | " | 9 00 |
| Prime, | do. | 6 00 | " | 6 75 |
| Smoked, | lb. | 6 | " | 9 |
| Rounds, in pickle, | do. | 4 | " | 6 |
| Pork, Mess, | bbl. | 9 50 | " | 12 00 |
| Prime, | do. | 7 88 | " | 9 25 |
| Lard, | lb. | 7 | " | 8 |
| Bacon sides, Smoked, | do. | 3 | " | 4 |
| In pickle, | do. | 3 | " | 4 |
| Hams, Smoked, | do. | 6 | " | 10 |
| Pickled, | do. | 4 | " | 7 |
| Shoulders, Smoked, | do. | 5 | " | 6 |
| Pickled, | do. | 4½ | " | 5 |
| RICE, | 100 lbs. | 3 75 | " | 4 75 |
| SALT, | sack, | 1 28 | " | 1 88 |
| Common, | bush. | 20 | " | 35 |
| SEEDS—Clover, | lb. | 6 | " | 9 |
| Timothy, | 7 bush. | 11 00 | " | 20 00 |
| Flax, clean, | do. | 10 25 | " | 11 25 |
| rough, | do. | 9 00 | " | 9 25 |
| SODA, Ash, cont'g 80 per cent. soda, | lb. | 3 | " | 3 |
| Sulphate Soda, ground, | do. | 1 | " | — |
| SUGAR, New Orleans, | do. | 6 | " | 8 |
| SUMAC, American, | ton, | 35 00 | " | 37 50 |
| TALLOW, | lb. | 7½ | " | 8½ |
| TOBACCO, | do. | 2 | " | 7 |
| WHISKEY, American, | gal. | 24 | " | 26 |
| WOOLS, Saxony, | lb. | 35 | " | 60 |
| Merino., | do. | 25 | " | 30 |
| Half blood | do. | 20 | " | 25 |
| Common do | | 18 | " | 20 |

Remarks.—On reference to our Price Current it will be seen that Ashes, Cotton, Flour, Wheat, Barley, Oats, Corn, Indian Meal, Hay, Naval Stores, Lard, Provisions, and Tallow, have advanced, the late European advices per Caledonia being in favor of these articles. We almost regret to see such advance, as it may have a tendency to prevent shipments to that extent which would take place if prices were kept lower. The United States grow such large quantities of produce, it is a great object to sell at moderate rates, and thus prevent other nations competing with us in the English market.

*Money* continues abundant at legal rates, for all private purposes. The Government is somewhat pinched for funds, which may ultimately affect private affairs, unless the people continue very prudent in the conduct of their business. Credits should be avoided as much as possible.

To Correspondents.—Cato, A Young Farmer, Wm. R. Prince, Reviewer, M. W. Philips, L. T. Talbot, J. H. Beale, E. M. C., and Westchester, are received. The last will be good enough to send us samples of his African maize, as we suspect it is Egyptian millet, such as has long been cultivated here.

Acknowledgments.—The Northern Galaxy, containing the List of Premiums of the Addison County, Vt., Ag. Society Show and Fair; the same of the Cortland County Ag. Society.

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# AMERICAN AGRICULTURIST.

*Agriculture is the most healthful, the most useful, and the most noble employment of man.*—WASHINGTON.

**VOL. V. NEW YORK, DECEMBER, 1846. NO. XII.**

A. B. ALLEN, Editor. SAXTON & MILES, Publishers, 205 Broadway.

## TO OUR SUBSCRIBERS.

THE first number of our sixth volume will be promptly issued on the 1st of January next, and we hope it will be agreeable to all to renew their subscriptions. At the low price at which the Agriculturist is published, a *large* subscription list, *promptly paid in*, can alone support it. We earnestly entreat our friends, therefore, to exert themselves in favor of this journal. If they will do their part, we promise most faithfully to perform ours, by making the next volume, equal at least, to any of its predecessors. We intend to give a handsome new vignette for one thing, and have other improvements in store, of which the public will be advised when they see them.

As to the terms, it will be recollected that they are *in advance*, and it is to be hoped that all city subscribers will immediately call at the publishers' office and make payment. Those at a distance will oblige us by remitting their subscriptions, in current funds, directly to the publishers, by *mail*, and they will take the responsibility of the money coming safe to hand. Post-Office orders we *do not want* at all—it is more trouble to get the funds in this way than they are worth, when obtained. We truly hope that our subscribers will bear this particularly in mind.

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TO PREPARE CORN FOR SHIPPING TO EUROPE.—See that it be perfectly sound and dry. If it could be kiln-dried it would be still better. Transport it to the ship in a clear dry day, and place it in moderate-sized bins in the hold of the vessel. These should be well sealed, and made water-proof; and great care should be taken to have them dry at the time the corn is put in. Thus prepared and loaded, it will arrive sound in Europe, and bring a good price. If carelessly shipped, the grain will surely mould on the voyage, and arrive unfit for use; for musty corn cannot be sweetened again by any method with which we are acquainted.

The varieties of corn which will best bear transportation by sea, are those containing a large portion of oil, such as the Golden Sioux, the King Philip or Northern Eight-rowed Yellow, the Dutton, the Browne, the Rhode Island White-Flint, &c.; but the flour made from those varieties is not so palatable to those unaccustomed to its use, as that made from the soft farinaceous varieties of the South and West, which are improved by kiln-drying.

## LETTERS FROM THE SOUTH.—No. 1.

AFTER leaving Baltimore, there is soon visible a striking deficiency in the cultivation, in comparison with that of the north; though this difference is less apparent in Maryland than farther south, as the manufacturing spirit already developed in that State is manifest in new and thriving villages occasionally springing up. The increased demand and value of agricultural products, necessarily induces attention to the cultivation of the soil; and more land is inclosed, old fences are repaired or removed, and new fields are taken in, and all is better cultivated. The farmer soon finds from his increasing receipts that his prosperity is identified with that of the mechanic and manufacturer; and that if he has to pay a trifle more, which he seldom does, or even 50 per cent., which has never been the case, for the few domestic manufactured articles which he consumes, he is yet vastly better off for sustaining the useful arts of his own country in preference to buying abroad, at even lower rates, for which his means of payment would be soon exhausted from his inability to secure any fairly remunerating market for his products.

The neighborhood of Washington, proverbially sterile, has latterly felt the influence of a domestic market for its productions, and many emigrants from New York and New Jersey have sold their farms at $40 to $60 per acre, and purchased here of a quality originally as good, at from $5 to $10; and by the use of proper fertilizers, lime, gypsum, manures, and a rotation of crops, they are fast bringing them into a productive state, while receiving an adequate return for their cultivation. It needs strong inducements, however, to lead the best class of northern farmers to abandon their social privileges at home, in which they have been born and nurtured, and in which they feel that they have inherited a right in fee simple, for the privations to which they are subject here. The only way in which these disabilities can at present be measurably remedied, is by emigrating in masses, bringing their schools, society, and mechanics with them, as many of the best early emigrants in northern Ohio, and other western settlements, have done. Extensive changes of opinion, as to the future social and industrial relations of the inhabitants of the Southern Middle States, which are evidently in progress, and which, if not arrested by any untoward event, will, ere long, produce such modifications in the present system of labor, as will secure future emigration, and greatly increased prosperity and augmented value to their land.

As our boat approached Mount Vernon, the bell gave token, as if by instinct, that the soil which occupied the happiest hours of one of earth's greatest sons, now holds his remains in her bosom. That inbred nobility of soul which led him to the achievement of deeds in his social, military, and civil career, which will commend his name to hallowed remembrance while civilized man inherits this globe, equally taught him to regard the cultivation of the earth as the noblest and most useful occupation of man. And as long as the *farmers* of the United States continue to read the history of their country, they will learn that Washington, "first in war, first in peace, and first in the hearts of his countrymen," sought in the pursuits of a diligent and enlightened agriculture, his highest individual enjoyment, and the best welfare of his country. It may be doubted, however, whether Washington, so extensively engaged in public affairs during a great part of his life, made his agriculture so productive as has been frequently claimed. His home estate partakes of that barrenness of soil which characterizes a great part of Eastern Virginnia; and the want of good markets, and the indifferent cultivation which characterized the operations of good farmers in his day, could not, without the greatest economy, have resulted in the accumulation of a large estate, even on a virgin soil. The most rigid and enlightened system which the intelligence of his time enabled him to adopt, while it might have failed to secure great wealth, is still an illustrious example to the present and future generation of farmers; and the considerable wealth he secured from the partiality of his early friend, Lord Fairfax, and his judicious selections of choice lands at nominal prices, while engaged in the laborious duties of a stripling surveyor, enabled him in after life to refuse all compensation for his seven years' service as Commander-in-Chief during our Revolution, and afterwards maintain that munificent liberality, which, though conspicuous above most others, was among the least of his resplendent virtues.

For a short distance on the banks of the Potomac where the railroad commences, the soil yields a natural growth of a variety of trees and shrubs; and many a large clustering vine gave evidence of its capacity to rear the grape to advantage. But on emerging from the bank, we soon entered upon a soil, which, whether of the lightest sand, an indifferent gravel, or even when inclining to clay, with but slight exceptions, gave support to a natural growth of uninterrupted stunted pine and oak; and with little variation, this dwarf pine and oak followed us from Acquia Creek to Wilmington. The bottoms of the Rappahannock, the James, and the Appomatox rivers, and for some little distance on either side, were an exception. The two former especially, below Fredericksburg and Richmond, give wide bottoms and some uplands of great fertility; and the inexhaustible beds of marl in their vicinity, owing particularly to the unwearied efforts of that able friend of agriculture, Edmund Ruffin, one of Virginia's best and most useful sons, have of late years been instrumental in resuscitating many of the worn-out lands, and almost invariably increasing fertility wherever it has been applied. Farming, intelligently pursued under this system, is generally profitable. Wheat, corn, tobacco, potatoes, and the grasses, are raised in profusion, and with decided advantage. But in general, the country has a barren aspect, indicating too plainly to admit of dispute, that a soil, originally lean, has been exhausted by a careless system of husbandry, which has taken everything off without giving back anything in return. If I am asked what is the remedy, the certain means of restoration and improvement for that broad belt of indifferent land that, with few exceptions, lines the seaboard from Maine to Florida inclusive, I would say, use lime, marl (another form of lime), and gypsum, wherever they prove useful, and can be procured at such prices as will justify their use; where wood is abundant as it is generally south of the Chesapeake; use charcoal ashes; husband and apply all the animal and vegetable manures which can be procured; pursue a judicious system of rotation of crops, taking care to give back to the soil a part of the vegetable matter by turning in a growth of clover, grain, peas, &c.; and finally, introduce stock which shall consume a part of the products on the soil, and return in their manure an equivalent for what they have exhausted. Sheep, of which there are comparatively few south of Delaware, would soon produce a marked and rapid improvement in the soil, while they yielded an ample return for the attention bestowed on them. The adoption of this system would result in slowly, but certainly restoring the land; while such as were more favorably situated, where peat, muck, and sea-weed can be obtained and profusely applied, would rapidly come up to the most satisfactory standard of fertility. Where the growth of clover or the cow-pea can be secured, success is certain with proper management. These will secure the means of augmenting fertility to any required extent, by occasionally turning in a crop, and making their consumption contribute to the same object, by applying the manure from the animals, fed upon them. We know nothing beyond this; nor has science, or the most successful practice, so far as our knowledge extends, discovered anything further. There is no royal road to farming, more than to education; and its pursuits must be sought by the intelligent and diligent application of nature's slow, but certain means, or success is unattainable.

So far as my route enables me to determine the staples of the eastern part of North Carolina, they are *exclusively* turpentine, and its products. For a distance of considerably over one hundred miles, there is but one interminable plain of pine and oak, and mostly of the former. There are two species here, the long and short leaf. The former, when but a few feet in height, has a very graceful appearance with its long, spreading, grass-like, tufts of luxuriant leaves, and when grown, giving a palmetto aspect to its branches. Both are rich in turpentine, while they yield freely. The system adopted here, is to bare a part of the trunk of its bark, and fresh or external wood, say one-third to half its circumference, and two or three feet in height, cutting a basin at the bottom to catch the turpentine. This is done in the spring, and the deposit removed from time to time as it exudes and is accumulated through the season. Another year requires a fresh cut, which is made higher up on another side of the tree, and a thrifty growth will bear from five to eight years' tapping. As may be supposed, an extensive forest is required to afford adequate employment to many laborers; yet it is found highly remunerating under favorable circumstances. A single hand will frequently earn $500 or $600 in a season, and sometimes $120 in a single month is realized by an active person. Much of this crude material is manufactured into spirits of turpentine in the woods where produced, and barreled for market, many of the furnaces employed for this purpose meeting the eye as we passed. In other localities, the pine is split into faggots, piled in heaps, and covered like charcoal pits, where a smouldering fire expels the resinous matter, which is secured in trenches, and barreled in its liquid state as tar. Resin and pitch are other forms of the same crude material. One worthy citizen observed to me, people might laugh at North Carolina for its pine, but the inhabitants did *mighty well* by it.

The section of the state farther westward, and near the base of the mountains, is much more fertile, and produces abundantly of wheat, corn, and in many instances of cotton, flax, &c. The lands still further back are of a highly productive soil, on which is grown almost every variety of product suited to the climate, and the river banks, near the coast, afford some of the best rice lands in the United States. The legislative policy of the citizens of this State has been cautious, and generally judicious, and probably no one in the Union is in a safer condition.

Wilmington has increased rapidly of late, since the construction of the railroad, and now contains some 8,000 people, with most of the important buildings new and well constructed. It enjoys a profitable trade from the regions drained by the Cape Fear and its branches, and its traffic and manufactures of turpentine are productive. Both Richmond and Petersburg are thriving from their considerable introduction of cotton, iron, and woollen manufactures of late. The former has about 25,000, and the latter near 20,000 inhabitants. R. L ALLEN

*Charleston, S. C., Nov. 11th, 1846.*

PRESENT CROP OF CORN IN THE UNITED STATES.—We see that the Louisville Journal estimates this at 500,000,000 bushels. We should be pleased to learn upon what data this estimate is founded. The census for 1840 sets it down at 387,380,185 bushels; but we place no dependence whatever on the careless returns of this census. For example, it sets down the potato crop at 113,183,619 bushels, not one-third of that of corn. We are of the opinion, that in the Northern States more potatoes are raised than corn; at the South and West, not near so many; still we doubt whether the crop of corn is double that of the potato. Admitting our present census to be 20,000,000, in round numbers,—500,000,000 would be 25 bushels of corn to each man, woman, and child, in the United States. We doubt whether there are 3,000,000 of farmers among our people. The above estimate would make the average among these 166 bushels each—entirely too much in our humble judgment.

The census for 1845 of the State of New York, sets down the potato crop at 23,653,418 bushels; the corn crop at 14,722,114—a little over one-half of that of potatoes. Admitting the population to be 2,604,495, this would be $5\frac{66}{100}$ bushels of corn for each man, woman, and child. Suppose the corn crop of this State to be an average of that of the Union, the population of which is estimated to be 20,000.000, the whole crop then would be only 113,000,000. In a note, page 375 of this number of our paper, taking the late U. S. census for guide, we estimate the corn crop at 400,000,000 Without doubt this must be too high.

# Mr. Norton's Letters.

As I find myself once more upon this side of the Atlantic, I shall take pleasure in renewing, according to your request, an occasional, if not a regular correspondence. My time in Holland during the coming year, will be almost entirely engrossed in the pursuit of my chemical studies, but opportunities will undoubtedly present themselves for the communication of anything interesting to your readers, that may fall within the range of my observation either in the laboratory or on the farm.

Before our ship had reached the docks at Liverpool, I received an invitation from a Scotch friend, Mr. Girdwood, to visit him at his new home in North Wales, about 40 miles from Liverpool. As it was a part of the country which I had never visited, I determined to spare a day in compliance with his request. From Chester to Chirk, the place of Mr. Girdwood's residence, a distance of 22 miles, I rode on the top of a coach, and thus had an opportunity of enjoying some of the most beautiful scenery that I have ever observed in England. The face of the country is agreeably undulating, with high bare mountains rising in the background. The hedges are very luxuriant, and a sufficiency of noble trees are scattered about to give a finish to the view. The number of gentlemen's seats is very great, this being a favorite region. The Marquis of Westminster has a magnificent place, with a straight avenue of three miles in length, lined with trees, running up to the house from the high road.

I was particularly struck by the fine appearance of the grass along my whole route; it was close, thick, and beautifully green. It is no doubt better than usual this year, as the summer has been a warm and dry one, so that the undrained fields have enjoyed the most favorable conditions. Now that the rains have commenced, a great breadth of the country shows the want of drainage, a branch of farming in which this section is particularly deficient. I saw some of the finest fields of turnips imaginable, one of about 40 acres would yield at least 25 tons to the acre. This must not be considered as a fair specimen of Welsh agriculture, which is notoriously inferior.

Mr. Girdwood has recently become the agent of an immense property, more than 20 miles in extent, and will no doubt gradually introduce most of the features of that improved system of agriculture which he has so successfully practised on his own farm in the Lothians of Scotland. He has taken one very large and neglected farm under his own supervision, and will proceed to drain, subsoil, and otherwise improve it, so as to form an example for the rest of the property. Improved implements are much required. There are immense coal mines on the estate, one of the beds being 18 feet in thickness. The lime quarries are also worked to a very great extent, 120,000 tons were raised and burned last year. This is in great part used for agricultural purposes, and is transported on the Ellesmere canal, which passes within a short distance of the quarries. A railway now building from Chester, will still farther increase the advantages of the property.

Mr. Biddulph, the owner of this wide domain, has also what are called manorial rights over the whole county; that is, he has a right to everything that is under the surface. He may sink a shaft for coal or lead in the middle of any gentleman's garden, on merely paying him for the extent of surface occupied by the mouth of the shaft, and the buildings which it may be necessary to erect about it.

Chirk Castle, Mr. Biddulph's residence, is a building of immense extent, and great antiquity. The rooms are very superb, and the repairs and improvements now going on, must cost from £60,000 to £70,000, or about $300,000. Many hundred acres are devoted to a deer park, where there is a herd of 600 deer. Some of the stags are of great size, with noble branching antlers.

My stay in Wales was too short to admit of those particular inquiries into their agriculture and systems of cropping, which I could have desired. It was easy to see, however, that they were far from perfection, and that deeply-rooted prejudices were abundant. There is much more hope of our country than of such districts as these, where their practices, founded on the habits of many hundred years, have become almost sacred.

I had no idea until I landed in this country, of the extent to which the potato disease has prevailed. In many districts, the destruction seems to be almost entire. The factor of Islay, one of the Western Hebrides, told me a few days since, that there were not enough potatoes for seed left in the island; he had seen none upon his own table for some time. Many of the crops were not lifted at all, but the starving poor were allowed to pick over the fields and save what they could. The population of the island is about 17,000, and of these a very large proportion depend almost entirely upon potatoes for their food. The factor said they must starve without assistance from government. The price of potatoes here in Edinburgh is 25 cents per peck. In Ireland, as you have doubtless heard, the destitution is becoming frightful. A general movement of the whole disposable military force thither, has taken place within a few days, as in some counties the people are proceeding to violence. In other places there have been gatherings of men who have marched peaceably to their landlords and asked what they should do to avoid starvation. On assurances of relief the poor creatures have quietly dispersed.

The demand for our bread-stuffs must be enormous during this winter, particularly for Indian corn. We are highly favored with an abundant crop, and it is to be hoped that by the energetic measures which the British government are now adopting, a sufficient supply will be procured from us and others, to avert the unspeakable horrors of famine.

*Edinburgh, Oct.* 16, 1846. JOHN P. NORTON.

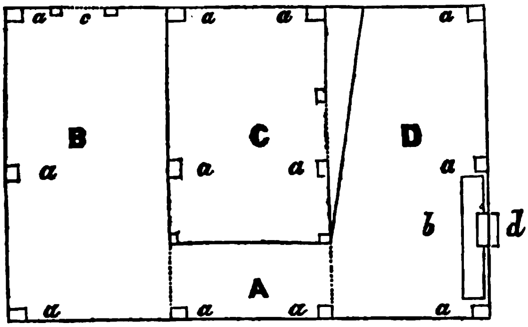
Above, we have the gratification of laying before our readers the first of a second series of letters from Europe, by our excellent friend, Mr. Norton. Sufficient funds having been recently donated to Yale College, to establish a professorship of Agriculture in that venerable institution, Mr. N. was appointed to it, and sailed from this port on the 16th of last September, with a view of passing another year in Europe, in order to better fit himself for assuming the duties of his station.

## PIGSTIES.

There is perhaps nothing that more strikingly marks the thrifty farmer than the judicious arrangement and good condition of his farm-buildings.

Having had occasion lately to erect some pigsties, and being dissatisfied with the old arrangement, I set about devising a more convenient one. My plan, on trial, is found to answer an excellent purpose. I send you a copy, with a description, hoping that it may prove of some service to my fellow farmers; or at least excite their attention to this important, but much-neglected branch of farm economy.

The cut represents one of a series of pens that of course may be extended to any number.



Plan of a Pigsty.—Fig. 83.

*Description.*—Pen 12 by 18 feet. Letters *a*, posts of cedar or white oak, 8 feet long, set in the ground 3 feet, and 6 feet apart each way. On the inner side of the first three tiers of posts, short posts are inserted, on which are laid stout oak sleepers to support a floor of 2-inch plank, which must have a sufficient slope back and towards the passage way, A, to carry off water freely; the last plank being raised a little at the lower edge so as to form a gutter through the passage, A, carrying all the slops into the manure-yard, B, in the rear.

The space between the second and third rows of posts to be covered with a roof resting on the top of them over the sleeping apartment, C, and the passage way, and enclosed all around excepting the doors to the sleeping apartment, and at each end of the passage, which should each be 2 feet wide by 3 high. This leaves a floored apartment, D, in front (which should be to the south), of 6 by 12 feet, in which is placed a trough, *b*, with a spout, *d*, from the outside, for feeding. A ledge should be raised in front of the sleeping apartment, to keep the wet from running in, and the front posts under the roof must be 2 feet higher than the rest, to give it sufficient slope.

The manure-yard, B, 6 by 12 feet (which, by this arrangement, is effectually hid from view), should be paved with large stones, to prevent the hogs from rooting too deep. The whole to be enclosed with good boards about 4 feet high, leaving a gate, *c*, to the manure-yard. J. M C.

*Perth Amboy, Oct.* 19, 1846.

Superior Whitewash.—Potter's clay mixed with prepared whitewash in the proportion of a pound of clay to a quart of liquid, is excellent.

## SHOW OF THE BERKSHIRE AGRICULTURAL SOCIETY.

The thirty-sixth anniversary of this Institution was celebrated by the farmers, mechanics, merchants, lawyers, physicians, clergy, and ladies of Berkshire, and a large assemblage of visitors from abroad, at Pittsfield, on the 7th and 8th of October, with all the usual demonstrations of joy and kind friendly feeling which a feast of the in-gathering of the harvest can be supposed by the most poetic feelings to inspire.

At an early hour on the morning of the 8th, the wave of concourse commenced rolling on our hillsides, and through our valleys, bearing in its course the patriarch of hoary years, together with his sons rejoicing in robust manhood, and his daughters smiling with matronly grace, bearing " their little ones like flocks;" and attended by their oxen given to strength, their generous kine, and bleating flocks; and a wave accumulating new strength in every motion, so that long ere high noon had marked the zenith of the day, our metropolitan village exhibited a floating mass of living things, borne together by a mighty impulse of kindred thought and feeling, from the most distant corners and obscure recesses of our territory.

The exhibition of neat stock was said by competent judges to have been in every respect superior to that of any previous occasion. In the beauty and strength of horses, Berkshire has not in former days been celebrated; but it was remarked by many that the show of these animals gave assurance that the enterprise of her farmers was waking up in this particular, a fact which is of itself evidence, that these hills will, ere long, furnish ranges of as beautiful stock of this species as ever luxuriated on the plains of Arabia.

The sheep and swine more than sustained the character of former years. Among the noble animals that graced the pens were the Durham heifers, recently introduced from the land of peers and nobles, by the Hon. Edward A. Newton, of Pittsfield. Notwithstanding their late arrival from over old ocean, they appeared perfectly " at home," among the new scenes of their surroundings, and highly pleased with the becoming simplicity of our republican institutions. The reputed eagerness with which Yankees gaze at strangers, and the *guessing* and wondering always attendant when he sees a new object, caused no dismay to them. Should they ever pant for usages in society which acknowledge sovereign power, other than the power of the people, they would undoubtedly yield as willing and as great a tribute to the queen of the milk pail, as they would to the reigning sovereign of the British isles.

From the show of animals, we passed to the spacious Town Hall, the grand repository of beautiful specimens of handiwork and shrewd ingenuity—carpets, rugs, blankets, quilts, stockings, mittens, boots, shoes, gentlemen's and ladies' hats; indeed, everything calculated to protect the outer man from the invasion of the stern old king of the north (whose approaches are already heralded by the advance guard of chilling winds and nipping frosts), were there seen, got up in styles of admiration and wonder. For the encouragement of southern economists, who prefer purchasing in foreign markets, rather than manufacturing at home, we must note a piece of carpeting, of more than ninety yards in length, manufactured by Miss C. F. Peirson, of Richmond, in a style which a southern nabob might be proud to admire, while, at the same time, he might be prouder still that he is a native of a republic where the persevering energy and discriminating taste of such women are allowed ample scope for their operations. Then we saw on the opposite end of the hall, a beautiful silk bed-quilt, worked by Mrs. Lucy Gay, of the same place. We did not attempt in the hurry, and amid the excitement of the occasion, to count the number of pieces arranged in this rich and gay article, but were credibly informed that they numbered seven thousand six hundred and ninety-two, all beautifully ornamented in roses. What a bed of flowers that must be, adorned with an article enriched by so much labor and fine taste! And what a dowry must the bride present to her husband who can bring such specimens of the labor and skill of her girlhood's sunny days. Then there were butter and cheese of the richest flavor, paintings of the highest finish, furniture of the most polished brightness—in short, almost everything calculated to

> "Variegate, adorn,
> And make the farmer's home delightful."

There, too, we saw a card of finely-wrought hardware, from the manufactory of L. Pomeroy & Sons, of Pittsfield; a box of chemicals from Mr. Fish, of Salisbury, Conn.; and a model of Benson's new machine for raising water, all matters that indicate the growing prosperity of our country.

On the morning of the second day, the plowing match came off at eight o'clock. From five to seven thousand spectators attended to witness the feats of the occasion, and twenty-four teams, thirteen of horses and eleven of oxen, entered to compete for the prizes. The time for performing the labor was, in consequence of the dryness of the earth, and heat of the morning, lengthened to an hour; and the skill manifested showed itself worthy of Berkshire plowmen.

At eleven o'clock, the Society moved in procession to the Congregational Church, to hear the report of awarding committees, and listen to the address of John S. Gould, Esq., of Stockport, N.Y.

We would not anticipate the publication of Mr. Gould's address (for we hope it will be published entire, and go into the hands of every farmer in the land), but we cannot forbear saying that it was what the present state of agriculture promptly demands—sound, pointed, and practical.

He alluded to the exhausting system of husbandry, which has depopulated some of the fairest portions of the earth That professional knowledge is necessary, and should be brought into continual practice, to prevent a continuation of such calamities. He conclusively showed, why so many failures arise from adopting what is called book-farming, and urged the importance of farmers keeping a strict account of their operations; and in giving their statements to the public, that they should be particular in describing soil, situation, locality, and all the *et ceteras* on which their failures or successes depended. He further urged the immediate introduction of agriculture as a science into all our common schools, by stating that these are the institutions where the great body of American farmers are to receive their first and final education.

After the address, the reports of the Committees were read, which gave satisfactory assurances of the increasing interest in agricultural advancement, and of the flourishing condition of the county.

The exercises at the Church closed, and the Society, with their guests, returned to the Berkshire House, and partook of the excellent repast provided for the occasion; after which, they separated, with much kind feeling, to their quiet homes, rendered dearer by the late festival, to commence anew their labors of preparation for another similar scene. W. Bacon.

*Mount Osceola, Mass., Oct. 12th,* 1846.

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Importation of Pure-Bred Merino Sheep.—Gentlemen desiring any information whatever in regard to the late importation of sheep, by Mr. Taintor, of Hartford, Connecticut, will please address the editor of this paper, as Mr. T. has no time to answer letters on this subject. The editor is also empowered to make sales of the male produce of this flock, deliverable next season. Females will not be for sale. Special attention is requested to this paragraph by all interested in the matter.

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The Late Epidemic among Horses.—It is known to most of our readers, that a very fatal epidemic has prevailed extensively, the past season, in the country around this city, among horses. It seems to have confined its attacks almost exclusively to pastured horses. A medical friend, in whose opinions we have great confidence, and who has made some dissections, informs us that he considers the malady a malarious congestive fever, affecting specially the head. General bleeding has not been useful. The treatment from which most advantage appeared to be derived, consisted in the topical abstraction of blood from the head (that is, bleeding about one quart), and the application of cold water to it, by means of cloths bound upon it; and internally the use of calomel, about two drachms daily, till the horse recovers. The disease has now ceased. Should it return, our friend thinks that the best means of preventing its ravages, will be to confine the horses to stables, especially during the night.

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Transplanting Trees.—A correspondent in the January number of the Agriculturist cautions gardeners against transplanting trees while the sap is in circulation, as it cannot be done without injuring them. How are ignorant cultivators to know when a tree is in a proper state? Are trees which lose their leaves annually moved more safely in autumn or spring? What season is best for removing evergreens in the Middle States? and why?

— An Inquirer.

For information on this subject "Inquirer" is referred to note on p. 224 of the current volume.

## BRITISH AND IRISH FLAX CULTURE.—No. 2.

*Nature and Preparation of the Soil, Sowing, &c.*—The most suitable soil for flax is a deep loam, or rich haugh, on a moist bottom, where the pores are not so close as in clay or till, and the strength of the soil fully equal to the food which the plant requires. Clayey land seems to be of too close a texture for its tender roots, and binds too much to allow the fibres to expand themselves in quest of nourishment. A light sandy soil, on the other hand, is too weak to bear a heavy crop, and is too much exhausted by it to render the lint crop a sufficient recompense for the chance of failure in the subsequent crops. On lands saturated either with underground or surface water, good flax cannot be expected.

In those countries, in which the greatest quantity of flax is produced, the most favorite soil for this crop is on the banks of large and gentle-flowing rivers, which, by their flooding, have, in the course of ages, formed the richest and deepest mould. This may show us what is its native soil, and where it can be cultivated with the most profit.

*Preparing the Land*, than which nothing can be more simple; for, if the field destined for flax has been plowed the full depth, previous to the frost, it will only be necessary to reduce the surface to a garden-like state, by harrowing, scarifying, and rolling; it being scarcely possible to render the land too fine.

In order to ensure a first-rate crop, it will be necessary, during the above process, to sow six or eight bushels per acre of bone-dust, and about two cwt. of real guano, by which means they will be intimately mixed with the soil; or if bone-dust cannot be had, the guano might be increased to three or four cwt. per acre. But about eight loads of good farm-yard manure, well decomposed and mixed with mould, is much to be preferred. Where land is in a previously rich state, less manure will, of course, be required; but if it has only been slightly plowed, a repetition will be necessary, as well as of the scarifying, &c. Small pieces of grass and roots of weeds left by the harrows should be gathered up, and a light roll drawn over the land before.

*Sowing the Seed*, in order that it may fall upon an even surface. Linseed is generally sown by hand; but this process is best performed by such machines as are used for grass seeds. Some prefer depositing the seed by a drill set at intervals of about seven inches; a practice I at first adopted, but now discontinue in favor of the broad-cast system, because the stalks will grow to a greater length, and be more equal in size; nor is my land infested with any noxious weeds to render hoeing necessary. Where the seed is sown by the hand, the machine or the drill, it must not be deposited deep. Half, or one inch, in damp weather, and one and a half in dry, ought not to be exceeded.

If seed and coarse flax are the aim, six pecks an acre will be sufficient; but if fine flax and seed, eight, ten, or twelve pecks will be necessary. It will be found in general that the greatest quantity will produce the most valuable fibre, but the least seed.

A sandy does not require so much seed as a heavy soil; but the inexperienced will find the most profitable crop to be that grown from six to eight pecks. Observe, if the drill is used, the creases should be filled up with a bush; but if the seed is sown broad-cast, fine light harrows must be used. An extra turn or two, therefore, with the harrows, the roll, and the scarifier, beyond the requirements for barley, will be sufficient. It will also be found that, where the soil has been well prepared and cleaned, the cost for weeding flax will be very trifling; because, when the land is rich, the plants spring up with astonishing rapidity, and quickly overtop the small weeds. It is necessary, however, to remove the larger, but much injury is often done in the attempt to eradicate the smaller.

As early in April as the weather will permit, is the best time for sowing; for the earlier sown, the better the crop. Do not await perfect dryness in the soil, as the seed will vegetate more quickly when the ground is somewhat moist.

*Facts connected with the Flax Crop.*—1st.—Under the improved system of husbandry, flax is not exhausting, but a highly restorative crop.

2d.—If sown primarily for the seed, the value of the crop is equal to the average value of wheat, barley, and oats.

3d.—Under experienced management, in every department, the crop is worth more than wheat.

4th.—Flax will grow upon any soils that produce grain, and upon soils where grain will not grow at all.

5th.—The plant will flourish after any crop, turnips excepted, and probably carrots or mangel wurtzel.

6th.—Flax has been grown upon my farm during the past six years in the following rotations, viz.: clover, stubble, flax, wheat, barley—wheat, flax, wheat, barley—wheat, barley, flax, barley—potatoes, flax, turnips, wheat—wheat, potatoes, flax, turnips the same year, barley—and so on, the improvement in each field being distinguishable.

7th.—When wheat follows flax much less seed is required.

8th.—The successful cultivation of the plant depends upon the preservation of the seed—a point hitherto not recognized either by the theory or practice of past or present times.—*Condensed from Warnes' Treatise.*

## THE ALPACA.—No. 7.

*Domestication of Alpacas in Europe and in the United States.*—The further introduction and domestication of the alpaca in Great Britain and Ireland, has been diligently and ably investigated by Mr. Walton, from whose treatise we give the following condensed account:—

In 1817, the late D. Bennet, Esq., of Farringdon House, Berks, received a pair of alpacas, and fed them, as he did his sheep, with hay and turnips in the winter. He found them hardy and healthy; and noticed that they required little care. From this stock he reared fifteen, of which the greatest number he had in his possession at one time was eight. Generally the young ones passed into other hands.

From Viscount Ingestre I was favored with the following, under the date of May 31st:—" In answer to the queries which you put to me, I beg to state, 1st, That the animals I imported were a pair of alpacas, and that I shipped them from Valparaiso in the latter end of the year 1825. 2dly, That they stood the voyage remarkably well. 3dly, The female had, three or four times, one young one at a time. And 4thly, They were for some three or four years at Earl Talbot's, at Ingestre, to whom I gave them, and who afterwards, I believe, made a present of the whole stock to the Zoological Society in Regent's Park. I will add that I had them shorn once or twice, and had the wool spun, which made a cloth of the softest texture possible. I have no doubt that they might be naturalized in this country," &c.

The next person who seems to have taken a fancy to these animals, was Thomas Stevenson, Esq., of Oban, Argyleshire, who, under date of the 15th of last March, politely forwarded to me the annexed report:—"Fourteen years ago, a son of mine in Peru, shipped on board of a merchantman a dozen alpacas for me, with an understanding with the commander, that he was to receive for payment of freight one half of whatever number might arrive safe in England. The object of this arrangement was to induce the captain to take greater care of them than he otherwise would do; yet of the dozen only four reached Liverpool, and of course I only got two, a male and female, which were about a year and nine months old when they reached Oban. Although I had been long in South America, I had never seen an alpaca, and was therefore ignorant of the proper mode of treating them; so I fed them in the same way as we do Highland cattle, and found it to answer remarkably well, in so far as their health and growth were concerned. They were driven out with my milch cows to pasture, summer and winter. During the night they got a little hay or straw; and, in winter, when snow covered the ground, a little grain in the sheaf was placed before them. They were fond of all vegetables and shrubs; particularly so of hedges and the tops of young trees. I never weighed them; but I should think they would have weighed from eleven to twelve stones, of sixteen pounds to the stone. The male was very strong, and I have seen him canter easily with a stout man on his back. Their wool was very fine; but I made no use of it further than manufacturing some of it into stockings for my family. I am sorry to say that they never bred.

"A year afterwards, my son shipped a dozen llamas for me; but I only got a pair, eight having died during the voyage, and the commander of the vessel reserved the other two for himself. My two received the very same treatment as I had observed towards the alpacas; and, when two years old, the female had a young one, and continued to have one regularly every year, about the month of April. She went a year with young. Of the offspring about one half lived; of which, the females began to bear when two years old. I sold my young stock to various persons; and two years ago, finding that I had only one female left, and that the old one, I sold my whole stock, which consisted of five, having five years previously sold my alpacas.

"The alpacas and llamas lived very quietly together until the latter had their first young one, when the male alpaca became extremely jealous and furious, and on several occasions leaped a wall five feet high, and broke through a dozen men, to beat the male llama, which, being slightly the heavier of the two, he did, carrying his anger so far as even to beat the young one when he could reach him. Besides the alpacas and llamas above mentioned, two years and a half ago I had another Peruvian animal, called the vicuña, generally considered to be of the same species. It is not, however, so large, being about the size of a fallow-deer, but infinitely more graceful and beautiful. This animal runs wild in Peru, and I could never tame mine, although I received it when very young. It was led out every morning to a small enclosed park. The wool of the vicuña exceeded in fineness any wool I have ever seen. I tried to have some of it manufactured into a shawl at Glasgow, but could not succeed, and at last I lost my packet of it in transmitting it from one manufacturer to another. I was so unfortunate as to lose this beautiful animal by a boy striking it on the heart with a stone, which caused instant death. It was a female; and what made me lament my loss the more, was the circumstance, that the poor creature was six months gone with young by the llama. My son a second time sent me eight alpacas, but they all died on their passage."

To subsequent inquiries, Mr. Stevenson, under date of March 30th, furnished me with the following additional particulars:—"The grounds upon which I fed my alpacas and llamas were of different descriptions, being partly hill and partly plain, and they seemed to agree equally well with them. In my former letter, I forgot to state that, during the warm months of June, July, and August, my alpacas and llamas were left in the fields all night. The total number of births I had was, I think, eleven. Of these, six came to their full growth, one was killed by accident, and four died when a few days old. The greatest care is required to be taken of them till they are two or three weeks old, after which there is no fear of them. The mothers are very fond of their young, and take great care of them, spitting at any one who comes near them. I did not try to cross the alpaca and llama; indeed, I never thought of it. I regret to hear that you find so much difficulty in awakening the attention of farmers to this subject. I have just had a letter from Lady ——, making inquiries for a friend in Germany; and I should not wonder if the Germans do not forestall us in the acquisition of alpacas. I have heard from my son in Peru, that he has lately, on two occasions, shipped for me four alpacas, but they all died on the voyage. I think the way you propose bringing them over will be a great improvement."

From the same party, under date of the 10th of April, I was favored with the following:—"I have delayed until now, acknowledging the receipt of your last esteemed favor, in order that, before doing so, I might have an opportunity of carefully reading your very interesting work on the naturalization of the alpaca. I have indeed had much pleasure in perusing it, and I only wonder it has not been the means of causing farmers to take a greater interest in the matter than they at present seem to do.

"At page 14 of your book, you say that the llama goes seven months with young. I may mention, that those I had went between eleven and twelve months. The female was invariably covered by the male two or three days after she had a lamb, and, from the singularity of this circumstance, it attracted my very particular attention, and I regularly marked down the date on which the female was covered, and found that she went with lamb a very few days less than a year. I may add, that I have in my possession a stone representation of a llama at rest, as you mention in p. 16, which was taken out of an Indian grave in Peru. I may also state, that I have two grandsons with me from Tacna, who remember having often seen the dried flesh of the llama. They agree with you in saying, that the Indians are very fond of eating it."

By Robert Gill, Esq., I was favored with the subjoined, dated Manchester, April 15th :—"It is quite true that I was one of the first who possessed the llama and alpaca. I also succeeded in breeding them, I think, to the extent of three; but, as I have no memoranda, I can only say from memory. I also possessed two vicuñas, but was not successful in breeding from them; nor have I heard that any one here succeeded in breeding them. In consequence of changing my residence about five years ago, I parted with the few animals of this class which I then possessed. I am glad to find you are taking up so interesting a subject. I had not heard of your work; but shall have much pleasure in reading it, as well as the forthcoming one. Should you succeed in adding to the number of our domestic animals, you will deserve the thanks of the country at large. Much remains to be done both in quadrupeds and the feathered race."

Joseph Hegan, Esq., of Liverpool, after stating that he was the person who presented to the Earl of Derby the first alpacas his lordship had, about five years ago, under date of April 20th, writes thus:—"For two years I lived at Arrow Hall, Cheshire, and while there had three or four of these animals. The survivor of these, with the progeny of one female, have been for the last two years on a farm in Ireland, belonging to Mr. W. Danson of this town, and I really know nothing of them. The manager of the farm is Mr. Bell, of Gainsboro', near Listowel. I am sure he will readily give you all the information in his power; and he has now had a fair opportunity of ascertaining the habits of the animal, from its birth onwards. Those under the charge of Mr. Bell are the pure breed—unmixed alpacas."

Charles Tayleure, Esq., of Parkfield, near Liverpool, in a note, dated April 11th, speaks thus: —"In reply to your inquiries, I beg to say, that my memory is not sufficiently good to enable me to state in what year I imported the first alpacas and vicuñas. I recollect that there were a pair of each, and that the alpacas had a young one, the others none. I had the misfortune to have one of the vicuñas killed by a dog; and in consequence of some subsequent importations of alpacas being diseased, and the disease spreading to the others, I put them under the charge of a shepherd in the neighborhood, who, by administering too strong medicines, killed the greater part of them. This tended to disgust me; and, not long after, the only two alpacas that I had left I gave to Lord Derby. On a really mountainous country I consider that they would do well. Cold does not affect them, but diet does."

From Henry Lees Edwards, Esq., of Pyenest, near Halifax, under date April 6th, I received the annexed:—"In reply to your inquiries I beg to state, that in 1839 I imported from Valparaiso six alpacas and two vicuñas. In 1841, of six alpacas shipped for me, only two arrived safe, and in the same year I purchased three in Liverpool, making a total of eleven alpacas and two vicuñas. Of the former, eight have died, leaving my present stock three alpacas and two vicuñas. From the latter I have had no lambs, but from eight alpacas in field, I had eight lambs, chiefly premature births, only two of which lived to twelve months, and them I have also lost. These animals have been much subject to scab, which is difficult to remove from them, and mine were seldom free. They were kept in a good grass field on the side of a hill, a dry pasture, but not short grass like the hill tops. In the beginning they had a good deal of hard food—oats, beans, &c., besides grass and hay—but when they died so rapidly, I discontinued hard food, and now only give them grass, hay, and vegetables."

The Earl of Derby's being mixed up with the alpaca question, seems to have been purely accidental. Pursuing that refined taste for rare objects of natural history which has always distinguished his lordship, he made the acquisition of a few llamas, and added them to his splendid menagerie at Knowsley. There they were seen by Mr. Hegan, who happened to mention that he had some alpacas on his property, in Cheshire, of which two were eventually transferred to his lordship, who subsequently obtained as many more from Mr. Tayleure, of Liverpool. Treating both varieties as mere curiosities, and seemingly never intending to use the preferable one as farm stock, his lordship allowed them to cross, and the result was births in the ordinary course. Both llamas and alpacas kept separately, also bred almost every year; but, besides these, his lordship procured a pair of guanacos, such at least they were called by the seller, although I am inclined to think most erroneously.

On the 22d of February, the Marquis of Breadalbane condescendingly informed me that "he had a few alpacas for a short time, but they all died with the exception of one;" adding, "that it was the opinion of his people who had charge of them, that the pasturage was too rich, and that they would have done better on hill ground."

Understanding that the illustrious consort of our patriotic Queen had so far identified himself with the fortunes of the British farmer as to purchase a pair of alpacas, with the intention of allowing them the range of his grounds, I addressed a note to G. E. Anson, Esq., his royal highness's treasurer, and, under date of March 5th, was honored with a reply in these words:—"It is true that there are two alpacas at Windsor, but, as yet, no use has been made of them." I have since received a sample of black wool, clipped from the Prince's male alpaca, and full ten inches long. In quality it is much superior to the imported, being exceedingly soft and moist to the touch—a proof that the fibres contain more yolk, or, in other words, the animal has drawn more appropriate nourishment from our pastures than it could on the Peruvian mountains. The wool of the female is shorter, but equally fine and lustrous.

Under date of May 31st, I was favored with the annexed from A. G. Stirling, Esq., of Craigbarnet Place, Lennoxtown, near Glasgow:—"I received your letter concerning the alpaca, &c. It had for several years been my wish to procure a couple of these animals from their native mountains; but, after various attempts, I found I could not succeed. Latterly, however, I was fortunate enough to obtain a male and female from the Earl of Derby's stock, which were sent here about the latter end of last August. My motive was—*first*, that, considering the great altitude at which alpacas live at home, and the sort of food they subsist upon, I thought that our hilly bent in Scotland, which neither sheep, cow, nor horse, will eat, might prove well adapted for them, taking into account the coarser herbage upon which they thrive; *secondly*, I wished to keep these Peruvians in my sheep-park with the sheep, in front of the house, so that I might be enabled to form an opinion of their habits, &c.

"Now, sir, from ten months' observation, I am enabled to state, that I have found them *most docile*, mild in temper, and never attempting to break a fence, and agreeing perfectly well with the sheep and young lambs. During our last winter, which was more severe than usual in this country, with many vicissitudes as to climate, and attended with weeks of deep snow, I thought it necessary to commence giving them some food, and began with rye-grass hay and turnip. After some little time, the keeper told me that they were not eating the rye-grass hay so well as at first. I then desired that a coarser kind of meadow hay should be given to them. This they greedily ate, and left the other. They next seemed to tire of the turnip, and I ordered each of them to have a handful of oats, which they ate freely of at first. However, in about three weeks, they also became indifferent to the oats. A handful of beans was next tried; they fell to them most greedily, and never lost their relish for them. By way of experiment, I desired the keeper to mix the oats and beans together; and, as a proof of their partiality for the beans, it may be stated, that they picked the latter out, and left the oats; which, if they are to be winter-fed, evinces that meadow hay and beans is the food they like, and would thrive upon.

"A small shed had been put up in the park for them, to which they generally resorted at night; but, when the snow was at the deepest, and the wind blowing hard and piercing, these animals left their shed, and picked up what grass they could get at the roots of trees. This shows that they are impervious to cold. Not so the sheep, for they were then cowering down under shelter, wherever they could find it; which proves to me that our climate would agree well with alpacas, and that they would exist where our sheep would die. We hope that the female is with young, which time will show. Both male and female are jet black, and there is a small speck of white, about the size of a shilling, upon the nose of the male. In so far as my experience goes, I can safely say that they have never had a day's illness since they came here. Their clip of last year amounted to 17½ lbs., which are beautiful silky fleeces, and which said silky wool is still in my possession."

The introduction of the alpaca into the mountains of Ireland is a new and important feature in the experiment. The attempt was first made by Robt. Bell, Esq., of Villa House, near Listowel, in the county of Kerry, a practical and observant farmer, who seems to have started with the determination of treating the animals, as nearly as he could, with the same fare, and, in the same manner, as they are on their native hills—that is, no petting, and plenty of exposure. This is by far the most judicious plan, and it is to be regretted that it has not been adopted earlier. Subjoined is an extract from a report addressed to me by that gentleman, under date of March 18th:—

"Agreeably to your request, I have much pleasure in giving you a brief statement relative to the small herd of alpacas which we have here. These beautiful and interesting animals arrived at this place in the summer of 1842, previous to which, after being landed at Liverpool from their native mountains in Peru, they were kept in that neighborhood for some time. They are the only animals of this kind ever introduced into this country, and have been admired by numbers of persons, many of whom came very long distances to see them. Of course, it is quite unnecessary to give you a description of these graceful creatures; for any one who has perused your publication on the *Naturalization of the Alpaca*, and has seen and observed the habits of the animal in question, will readily perceive how thoroughly you are acquainted with the subject of your work in its minutest details; but I may inform you, that the alpacas on this farm are of various colors, some being brown, others black, and one perfectly white. They have not been shorn since the month of June, 1841, and the average length of their wool at this time is eleven inches, and so firm to their bodies, that the smallest lock cannot be pulled off without great force; therefore, they never lose a bit. It is exceedingly fine and silky; indeed, very much finer than any alpaca wool I have yet seen imported into England; and, during the two years they have been here, there is a visible improvement in the texture of their coat, and I think that the wool of the alpaca lamb here is superior in fineness even to that of the vicuña I have frequently examined them very closely, but could never find upon them a wool-tick, or any vermin whatever, to which ordinary sheep are subject; and I was very much afraid, during the exceedingly hot weather which we had last summer, that, from their great weight of fleece, they would be attacked by the fly; but I am glad to say that no such casualty befell them, although sheep, contiguous to their pasture, were much injured by it. I have never, even after a whole day's rain, found them wet to the skin; for their wool, on becoming wet on the outside or surface, mats together, and becomes quite impervious to the heaviest showers. I certainly do not exaggerate when I say, that each of the old alpacas here would clip at this time upwards of thirty pounds of wool."

The introduction of the Peruvian sheep into the United States was strenuously recommended by Mr. Wm. D. Robinson, as long ago as 1824. He caused the several varieties to be engraved, and an account of them published by John S. Skinner, Esq., in the American Farmer of that year, in which he makes the following bold, though patriotic assertion:—"I venture, without any hesitation, to assert that, the individual or individuals who succeed in first landing in the United States a pair of the sheep hereafter described, would not only be compensated in a pecuniary sense, equal to their most sanguine expectations, but would render a greater service to our country than if they introduced all the mineral wealth of Peru." Notwithstanding the opinion, so positively advanced, it does not appear that an importation of any of these animals has ever taken place, except an occasional individual for the use of a menagerie or some strolling show.

The importance of some movement to introduce the Alpaca into the United States, both at the North as well as the South, is manifest, from the fact that our climate, particularly in mountainous districts, as along the entire range of the Alleghanies, will be well adapted to their natures, and that they may also prove a source of national wealth. The cloth manufactured from their wool is now well known, and is in general use. At a late meeting of the British Association for the Advancement of Science, Mr. W. Dawson stated that six years before, he brought before that Society a subject that received its countenance in an especial manner; which was to induce manufacturers to exercise their ingenuity to discover means for consuming a wool of a silken texture in a manufactuted state, and also to prepare the landed gentry and farmers to naturalize the animal called the alpaca, a species of sheep, eating that which the cow, the horse, the common sheep, &c., reject. He added, "The manufacturers have succeeded beyond my most sanguine expectation, and the naturalization also. The former has created a national wealth of £3,000,000 to £5,000,000 per annum; the latter is progressing rapidly. I have proved that these mountain rangers can be domiciled in our own country, though brought from beyond the Andes mountains, in Peru. I have tried the experiment in my own lands on the west coast of Ireland, in the wildest districts of the county of Kerry, and already a company is on the tapis to bring over 10,000 of these animals for the national good." He said that the race was nearly extinct in Peru, and therefore it was desirable to bring it over to the British Isles; their wool approaching silk, and their flesh being improved by English air and pasture. The Queen and Prince Albert were wearing royal robes from the wool of some bred in Windsor Park. And he gave it as his opinion that "*in ten years these animals will add £20,000,000 per annum to the national wealth.*"

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## THE STRAWBERRY QUESTION.

As much has been written on the Strawberry Question, I shall express my views by setting forth certain positions, from which I shall make deductions and amplifications, sustaining all by facts and arguments.

*Postulates.*—1st.—A normal strawberry blossom, be it of what character it may, never changes, and all the runners from each parent plant being component and identical parts of the original, serve only to perpetuate its primitive character.

2d.—Normal blossoms of the strawberry are of three forms; first, *perfect*, having fertile stamens and pistils; second, *staminate*, having sterile or abortive pistils; third, *pistillate*, devoid of perfect stamens.

3d.—Plants of the *perfect* character sometimes produce a few of their earliest and latest blossoms so weak as to be without stamens, or with very imperfect ones, which is caused by weakness or exhaustion, in the same way as numerous other plants produce occasional imperfect flowers, and as ever is the case with some double-flowering plants, which produce single flowers from the same cause; but this in no wise affects the general character of the plant, which is always maintained in all vigorous blossoms.

4th.—Staminate and pistillate varieties (absolutely so) never vary under any circumstances whatever; and those who advocate such change might with equal justice assert that male and female animals transpose their sexual characters.

5th.—The flowers of two only of the normal forms produce fruit, the perfect and the pistillate; the staminate is invariably barren; the pistillate is also barren, except when attended by plants of one of the other normal forms.

*Deductions.*—The fertility of any variety cannot be positively tested and decided upon, when other varieties that may affect the result, exist in proximity.

1st.—"Hovey's Seedling," whatever assertions may have been made to the contrary by various persons, without proper scrutiny, was, in the original, is now, and ever will be, a "distinctly and perfectly pistillate plant;" and consequently no Hovey's Seedling has ever produced, or ever will produce fruit, without the aid of some variety possessing stamens.

2d.—No one of the plants called Hovey's Seedling, described otherwise than pistillate by Mr. Downing and others (unless they erred as to their character), *was a genuine Hovey's Seedling*, but they were misled by confusing other varieties with it, in some cases the whole bed being of a different kind, and in other cases the beds must have been composed of Hovey's Seedling and some other variety, mixed. Not one of the transpositions of Hovey's Seedling that Mr. D. speaks of, took place, but he was misled by the circumstances to which I have alluded, or by others.

The error of Mr. Hovey in supposing his seedling a perfect plant, capable of producing fruit of itself, arose from the proximity of some staminate variety; and the errors of Mr. Downing, both on this and various other points at issue, have arisen from the juxtaposition referred to, one variety fertilizing the other, and also from errors in the names, and from admixture of varieties in the same bed, as Mr. Longworth supposes; which several causes have prevented him from forming correct conclusions, and have resulted in an incongruous mass of erroneous positions. The ideal doctrine of Mr. Downing that "all strawberry plants in their natural state are perfect in both organs, and staminate or pistillate ones, chance monstrosities, produced from high cultivation," is *a radical error*, and contradicted by facts well known to every close observer. And the opinion expressed by Mr. Downing that plants however perfect will degenerate into the pistillate form, from over-bearing and consequent debility, and that Hovey's Seedling has done so, carries with it two absurdities. In the first place, if such variation were caused by exhaustion, powerful nourishment would produce a restoration; and, secondly, the position that a plant, over-worked and debilitated, should thenceforth assume the power of being more productive than ever, is contrary to the whole order of nature. If such a rule could be applied to man and quadrupeds, the results would be vastly important and beneficial, and it is with much regret that I express my doubts. This second position, it will be also perceived, strikes directly at another opinion advanced by Mr. D., that when a plant has reached this state, it will produce finer and more abundant crops, "because the whole blossom (meaning the whole force) of the pistillate plant is devoted to the fruit itself." For however rational and correct this last position may be, as advanced by Mr. Huntsman in respect to plants in their natural vigorous state, it can scarcely be deemed by any rational mind to apply with equal force to varieties that have attained this character from unnatural and absolute prostration. I have waded along thus far in this question, although after reading several articles, and finishing with Mr. Downing's last one, I felt, as to replying, just as Mr. Webster did at Faneuil Hall, two years ago, only with the difference of a single word. Mr. Webster there remarked, "Where shall I go?" I asked myself; "Where shall I begin?" All the remarks which I have ventured to make in the foregoing article, were advanced without seeing Mr. Downing's strawberry beds, and are based wholly on my own investigations, and on the unerring order of nature. I have since, however, inspected the strawberry beds in his own grounds, and shall be able to shed some additional light as to the cause of Mr. D.'s almost unaccountable errors, which I think by making some addition to the suggestions already advanced, as to their cause, will be pretty fully explained.

I have taken thus much pains in this matter from an ardent desire that the strawberry question should be settled and set at rest for ever; it having savored too much of wheat changing to chess, or rather of a worn-out bull changing to a prolific heifer. In the meantime, I shall be gratified at any facts and arguments calculated to sustain the following statements made by Mr. Downing, and also that the "many persons" referred to by him, may be named, so that their strawberry beds may be examined. "Notwithstanding Mr. Longworth's incredulity, we still assure him, that two years ago, we raised a remarkably fine and large crop of Hovey's Seedling Strawberry, *without the proximity of any sort whatever*. The same results have to our own knowledge been attained by *many persons* this season, who have grown large and perfect crops of the same variety for the first time, in gardens where there has been no other strawberry of any kind, or only *in distant portions of the same garden*. We have examined these plants of Hovey's Seedling, when in flower, and found the blossoms large and *perfect in stamens and pistils*."

NOTE.—The italicising of some passages in the above extract is my own, and intended to elicit attention. WM. R. PRINCE.

*Prince's Linnæan Botanic Gardens and Nurseries, Flushing, Sept.*, 1846.

## ENTOMOLOGY.—No. 2.

HAVING gained a general knowledge of those forms and appearances which insects assume before they reach their perfect state, the gardener or agriculturist should next make himself acquainted with their classification.

All insects are either winged or not winged. This fact gives rise to two primary groups, viz.:—

First.—*Apterous Insects*, or those which in no period of their existence are ever furnished with wings; as the spider, centipede, &c. They undergo little or no change; that is, they come from the egg or from the body of the parent, nearly in the same form they are destined always to preserve.

Second.—*Ptilota* or *Winged Insects*, on the other hand, undergo the changes already described; first, larvæ, then pupæ, and finally, full-grown, and with wings capable of flight. These are called perfect insects, and comprise all butterflies, bees, wasps, beetles, dragon-flies, and ants. These last enter into this great division; for although the majority of those we see are without wings, still they are only the neuters or imperfect ants, the true males and females being each furnished with four wings. As nearly all the insects which relate to agricultural and gardening operations belong to the class of *Ptilota* or four-winged insects, I shall confine my remarks to these only, pointing out the leading divisions, and defining them in such language as can be understood by the most unscientific.

The Ptilota or perfect insects, are naturally arranged into five orders, and were named by Linnæus as follows:—1. Lepidoptera. 2. Hymenoptera. 3. Hemiptera. 4. Coleoptera, and 5. Neuroptera.

*Lepidoptera.*—This well-known and beautiful order is characterized by four wings, thin, membranaceous, and covered with a fine, powdery substance; this, on being magnified, is shown to consist of innumerable minute scales, lying one upon another, like those of fishes. Lepidopterous insects are known in common parlance as butterflies, moths, &c.; these are, in fact, natural divisions, and comprehend many thousands of species. Few insects of this order are injurious to the agriculturist, but to the gardener and the orchardist some of them are, indeed, a bane.

The insects of the numerous and splendid tribe of butterflies are well characterized by flying only during the middle of the day. In their caterpillar state they all feed upon the leaves of plants; and when they change into chrysalides, either suspend themselves by the tail in some retired situation, or attach themselves to some object by means of a strong transverse thread; but they never spin a cocoon, nor undergo their metamorphoses in the ground.

The hawk-moths form the second division of lepidopterous insects, and are only to be seen on the wing at the rising and setting of the sun, that is, in the former and latter part of the day. Their flight is so extremely rapid, that the eye cannot distinguish the motion of their wings, nor the colors which ornament them. The caterpillars of the larger kinds are, in general, very beautiful; and are easily known from those of butterflies, and of other moths, by a sort of horn or curved process, issuing from the last segment of the body. None of these are found to be injurious to the gardener or farmer, and only three or four kinds of the butterfly, while the moths, the third grand division of lepidopterous insects, are not only the most numerous, but among them we find the greatest proportion of injurious and destructive species. Nearly all, in their caterpillar state, are external feeders, that is, they feed upon leaves. On changing into the chrysalis state, they either conceal themselves in a silken cocoon, or burrow in the earth, but are never exposed like butterflies. The perfect insect seeks its food during the night, generally beginning their flight in the dusk of the evening. Fruit trees, but more particularly apple trees, are subject to the attacks of many lepidopterous caterpillars. Independently of the various causes of blight, proceeding from the soil and the weather, there are others entirely originating in insects. Orchardists frequently find the tender leaves on the young apple shoots have the appearance of being sown or woven together, or rolled up and withered; now it is beyond all doubt that neither heat, cold, nor fungi, have the least agency in causing these injuries; they are, in fact, entirely produced by two small caterpillars of two different species of small moth, and if the leaves are separated and carefully unrolled, these depredators will be detected. From the lamentable neglect that agricultural entomology has hitherto received, the perfect insects have never been ascertained, and even the effects which they produce have been attributed to other causes.

The larva of the ghost-moth attacks and does much mischief to the roots of the hop-plant. The giant goat-moth, as a caterpillar, lives entirely within the trunk of the willow, and soon brings it to decay. A small moth eats the culm of the rye within the vagina, and thus destroys many ears; while our woollen garments, furs, feathers, and even books, are sometimes ruined by the depredations of three or four other little moths, unfortunately too well-known in our dwellings.

*Hymenoptera.*—Insects of this order have four transparent wings, and the tarsus, forming the third or outer division of the foot, is composed of five joints, while the body is armed with a sting. The insects of this order are more intelligent and more beneficial to man than any others. The numerous species of bees supply him with honey; the ant (particularly in tropical climates) is a grand promoter of vegetable decomposition; and the innumerable host of ichneumon flies carry on a perpetual warfare with every description of caterpillar. The large autumnal wasp is the only injurious hymenopterous insect in gardens, the small early wasp being in a measure beneficial.

*Hemiptera.*—The chief characteristic of this order, is that the mouth is in the form of a slender and lengthened proboscis, which, when not used, is *folded* beneath the breast, but not *coiled* up, as in lepidopterous insects. The wings are four, two of which are always clear, and the others generally semi-transparent. One division of this order feed upon insects, and consequently are not injurious to gardens, but the other division feed upon vegetable juices, as plant-lice, plant-bugs, &c.

The aphides or plant-lice, next to locusts, are the most universal devastators of vegetables. Almost every plant is attacked by them; and their fecundity is so prodigious, that Reaumur has proved that, in five generations, one aphis may be the progenitor of 5,904,900,000 descendants; and it is supposed that, in one year, there may be ten generations. The injury they cause is produced by sucking or pumping out the juices of the shoots. A portion of them only are provided with wings, which, as has been before observed, are four in number. Some species are not so prolific as others; but those feeding upon the different kinds of pulse, and on flowering plants in general, increase so rapidly and take such entire possession of whatever they fix upon, that vegetation is checked, and often destroyed. The aphis meets with a powerful enemy in the lady-bird or lady-bug; for it has been often observed that when vast numbers of these interesting little beetles are seen, it is where the aphides have been very plenty. Mr. Kirby, an English writer, states, that in 1807, the shore at Brighton, and on the south coast, was literally covered with these little beetles, to the great surprise and even alarm of the inhabitants, who were ignorant that their little visitors were emigrants from the neighboring hop-grounds, where, in their larva state, each had slain his thousands and tens of thousands of the aphis, known to the hop-growers under the name of the *fly*.

*Coleoptera.*—This extensive and well-defined order comprehends all those insects generally called beetles. They have four wings, but two of them assume the form of hard wing-cases, which meet close together in a straight line down the back. There are many tribes of these insects, which, both in their larva and perfect state, are extensively injurious to the gardener and agriculturist. The May-bug is one of the most destructive insects in this country. The female deposits her eggs in the ground, where, in a short time, they change into young grubs; these, when full fed, are about one and a half inches long, soft and white, with a reddish head and strong jaws. These grubs are known to farmers as the potato-worm, from their ravages upon the tubers of this vegetable. In this state the insect remains four years, at the end of which it digs in the earth three or four feet deeper, and spins itself a smooth case, where it changes to the chrysalis, and the following spring comes forth in its perfect form. Various species of weevil, most of them very small, do considerable injury; as all the species live, in their larva and pupa state, upon seeds and vegetables.

*Neuroptera.*—This order is composed of masticating insects, having four wings, two of which are always transparent, the other two being in some, clear, in others, opaque. As respects their wings this order may be mistaken for the Hemiptera, but the difference between the two orders may be immediately distinguished by their mouths, the Neuroptera having strong jaws for devouring their food by mastication, while the Hemiptera have none, but are supplied with a proboscis for suction. The principal divisions are represented by the dragon-flies, cockroaches, grasshoppers, locusts, &c. Dipterous insects connect the Ptilota or four-winged class with that of the Aptera or wingless insects. L. T. Talbot.

## REVIEW OF THE SEPTEMBER NO. OF THE AGRICULTURIST.

*French Mode of Making Apple Butter.*—Now, with all due deference to French cooking, I do not believe that this French dish is a better condiment than the old-fashioned Yankee *apple sauce*, when composed of three-fourths rich, sweet apples, and one-fourth quinces, thoroughly cooked in good sweet cider, after boiling five gallons into one. [Neither do we, and we wish we knew where we could get a half barrel of it for our winter supplies.] I am sure the domestic is the best, but let those who can, try both. Who will tell how the western or southern *apple butter* is made? In a journey we once made from Massachusetts, through those states, we found this article good and cheap. [We hope some of our readers will answer our correspondent in the matter of *apple butter*.]

*Preservation of Apples.*—Strike out from the directions for packing all the articles but the *sand*, and be sure it is very clean, very dry, and that it fills all the interstices so that no two apples touch. Any warm upper room is better to keep the cask in than a cellar, unless it is a very cool one, and unusually dry. It will take a very hard frost to injure fruit so packed. All kinds of vegetables may be preserved a long time fresh in the same way. I have known potatoes so kept at sea, much longer than any other way. One voyage in particular I recollect, our decks were often swept by the sea breaking over them, and leaking down through the hatchway among the potatoes, endangering them by the moisture. Who knows but potatoes might be kept thus from being affected in winter by the rot? [We doubt whether sand-packing would preserve them, but are confident fine charcoal dust would. The latter would also be a much better preservative at sea, as it is a great absorber of moisture.] Such articles as these are among the most valuable of a work like the Agriculturist, but the directions should always be very plain and simple, and, above all, correct.

*Importation of Pure-bred Merino Sheep.*—I am well pleased that we have got *one* importation of pure Merinos, about which there can be no dispute. It is pleasing to see such a devotion of wealth to such a national object of benefit to the cultivators of American soil, as this act of Mr. Taintor, who is entitled to receive a meed of praise from all the friends of agricultural improvement in the country. It is a great pity that many other men of wealth do not "occupy their leisure hours with as useful a hobby." It is my opinion that this kind of fine-woolled sheep, taking all things into consideration, are the very best of any in the United States for profitable wool-growing. Though, indeed, I entertain serious fears that, under the new tariff, that branch of American industry is destined to be prostrated. [We have no fears of the kind. We will turn out American intelligence, industry, and perseverance, in growing wool, against the whole world, tariff or no tariff.]

*Patent Fence.*—I do abhor this disposition to patent every new thought. In fact, this is not new, and is unworthy a patent. I have thought and talked of the same plan years ago, but gave it up as worthless. The interest on the cost extra over wood posts, will amount to enough and more, than to pay for replacing them. I cannot discover "its cheapness." And unless made very heavy, these posts will not prove "imperishable." They are not so strong as stone; and unless very hard burnt, will rot about as soon as locust or cedar timber, and be very likely to be broken by frost. If this country must continue for ever to be taxed one hundred millions of dollars a year for useless fencing, the sooner we commence building iron fences the better. (See January No., page 171.) I mean my language to be plain enough to show that I am not "on the fence."

*Symptoms of Disease in Animals.*—Will you please to tell us where to feel the pulse, and how to know whether it is "full and frequent," or not? Otherwise this article is not of much practical benefit to us unlearned diggers of the soil. Veterinary surgical knowledge is at a very low ebb in this country. [The poets say, "there is a pulse in every vein;" so now, Mr. Reviewer, we think you will be at no loss to find it. If you are, call upon the arteries; and if you cannot find these, the next time you skin an animal, just map them out on a paper or wooden animal, and set the same up on your kitchen mantel-piece for the study of yourself and family. All this is easier done than plowing straight lines.]

*Use of Gypsum, &c.*—Although you "presume that most intelligent farmers are perfectly acquainted with everything concerning it," I assure you that not one-tenth of them know anything about it. To many of your readers, I presume your remarks of its uses and benefits will be new; and it will also be new for them to learn, that by using a small quantity of gypsum at a trifling expense, they may absorb and prevent nearly all of the unpleasant smell of a privy, &c. Will one in ten do it? Tan bark applied daily will effect the same purpose; so will ashes or lime in a great measure.

*Anderson's Patent Hammer.*—Of all the improvements ever made upon this important and indispensable little tool, this last is undoubtedly the best. The greatest wonder is, why it was not thought of before.

*Tomatos.*—Of all the modes of cooking them there is none quite equal to "our way." Scald and peel them; then stew them in their own liquor a long time, till there are no lumps; then add crumbs of dry bread to absorb nearly all the juice. They are good when first cooked while hot, and equally good when cold, or when warmed up again.

morning, noon, or night. In fact, I may say of them what the sublime poet says of another standing dish :—

Bean porridge hot, and bean porridge cold,
And bean porridge best at nine days old.

*Dandelion Coffee.*—What! that common plant that grows in everybody's door-yard? Is it a fact? Who has tried it on this continent? Anything that will help to stop the enormous consumption of coffee in this country, I shall look upon as a great blessing and saving of health and life.

*The Alpaca.*—This is a very interesting article, in which much useful information is conveyed in a concise form; and if passed over by the reader might as well be referred to again. By the by, what of the project for importing alpacas? Will it fall through for want of funds? I shall feel ashamed of my country if such is the fact. It does not seem probable to me that the alpaca or any cross from them will ever be used in this country as beasts of burden. Although very useful in the mountains of Peru, where it is necessary to carry packages over regions entirely destitute of roads, I do not think they would suit this railroad region of go-a-head-i-tive-ness, where every man has, or may have, a good carriage-road by his door. Though I must acknowledge that many of said roads are very rough ones, and show that the dwellers thereon are but a small remove above the uncivilized llama-drivers of Peru.

*Manure.*—Will manure deteriorate if kept under a shed, or if well piled up out of doors? If lime, gypsum, ashes, or charcoal, were mixed with the heap, will it "undergo a degree of combustion and become *dry rotten*, mouldy, and useless?" In using fresh, hot stable dung, I never have found any difficulty if plowed in deep. The best way to do it when much mixed with straw, is to spread it upon the ground before the plow, and then let a boy follow with a rake and rake into each furrow the width of the next.

*To Prevent Smut in Wheat.*—It is truly strange that smutty wheat should ever be grown, when it can so easily and certainly be prevented. The most expeditious way to wash a quantity of wheat is, to have a large trough full of brine; let the wheat be in a tub or basket at one end, where the washer can dip it up conveniently into a sieve, a small quantity at a time; plunge the sieve suddenly down into the brine, and nearly all of the smut will rise up and float over; then empty the wheat into another tub of brine, and the remainder of the smut, if any, will float; brush away to the other end of the trough the floating smut, and repeat the operation until your second tub or trough needs emptying. I don't think it will need to stand and soak, and I don't think you can grow smut from wheat so treated. Dry your seed as directed, with lime, ashes, or gypsum.

*Side-hill Plows.*—Ruggles, Nourse & Mason, manufacture a very strong and easily worked implement, which needs only to be seen to be appreciated. There are fifty thousand of them needed at this moment in Mississippi, Alabama, Tennessee, and Missouri, upon the soft easily washed side-hills of those states.

*Repeal of the British Corn Laws*.—You and I, Mr. Editor, differ very widely in our appreciation of the benefit likely to be derived by American farmers by this act of Great Britain. As a philanthropist, I rejoice to think that the half-starved English and Irish slaves may partake of some of the blessings enjoyed by our American slaves. For, among the latter, suffering, for lack of food, is almost an unknown thing. I most sincerely wish that the British starvelings could have a goodly share of the eatables of this country that daily go to waste; or, the good, rich food that our hirelings turn up their noses at, and would utterly refuse to live upon. I do not dispute your axiom that there is a tendency to produce a surplus of grain in this country; but I do say, that it would place this country in a far more prosperous condition if there was sufficient inducement for that portion of the population which tends to create that surplus, to engage in other pursuits to an extent that there would be a *home consumption* of all the agricultural products of our fertile soil. If the cultivators of American soil are only to look to a foreign market for their surplus productions, it will take more millions than there are in your arithmetic to compensate them for their loss of a home market. Again, all the exports of agricultural products, even should it (which I doubt) amount to $20,000,000 a year, will be returned to us in the manufactured products of pauper labor, such as every country should always make at home. While it is recollected that those engaged in the carrying trade are "consumers," that a goodly number of them are foreigners, and that a very much larger number of consumers would be engaged in carrying the surplus coast-wise, for the home consumption of home manufacturers of home-grown raw materials, into fabrics to export, instead of exporting the raw material and food for others to use to gain a power to level the agriculturists of this country down to the same level as the serfs of overgrown British land monopolizers. "Hence the disastrous effects" can and will be as "great as apprehended by some;" and while "many of our farmers will grow richer by the sales of their produce" to English manufacturers, many, very many more, will grow poorer in consequence of the repeal of our own and British tariff laws. We shall see. [We think our correspondent has slightly misapprehended the tone of our article. We simply congratulated the American people, and those of Great Britain and Ireland, upon the repeal of the odious duty on corn. In stating the advantages of enlarging a *foreign*, we said nothing of the *home* market, of the importance of which no one has a higher estimation than ourselves; and we would do everything which we thought just and honorable to extend it. Do we understand Reviewer to assert that enlarging the *foreign* is likely to curtail the *home* market? If so, we should be pleased to know how this is to be accomplished. We are of opinion that taking off the late duty on corn, in Great Britain, will add at least five cents per bushel to its average value in this country, for the next ten years to come. Admitting the product now to be 400,000,000 bushels, this would be a gain to the country of $20,000,000 per annum. Previous to the duty being taken off of cheese, in Great Britain, in 1841, we exported to the United Kingdom next to nothing; and the price had got down in our own country to 3 and 4 cents per lb., for a prime article, thus making it a losing business to the dairyman. Now that same article is worth fully 7 cents, 'and upwards; and one million pounds of it were exported, during the last week in October, from this port (New York) alone. Would Reviewer leave us to infer that this was going to benefit the pauper population of England, to the injury of the American dairyman? No; we will do him the credit to believe that he would draw no such conclusion; and yet we are sanguine in the opinion that corn and cheese will prove a parallel case.]

*Foreign Cattle.*—I agree with you most cordially, neighbor Bement, that we have imported enough at present. If we rightly improve those we have, we might better become *ex*porters than *im*porters. We might just as well import our wheat and potatoes, as any more cattle. Many now have learned to think that nothing American is good enough for their perverted taste. We have the seed, and if as good cattle cannot be grown upon our soil as that of Great Britain, let us acknowledge the fact, and own our dependence again upon our old mother for all the common necessaries of life.

*Southern Agriculture.*—Perhaps it is as your correspondent from Louisiana thinks, "almost useless for any one to waste paper and ink to write to the southern planter," &c., because he won't read. If your "plantations are too extensive to manure thoroughly," throw away one-half or three-quarters, and treat the remaining part rationally. The fact is, your system of *rushing* everything is your ruin. I don't know how it is with you, as I have never visited your immediate locality, but I know in many of the cotton plantations, the most destructive system of farming is pursued that I ever saw. The timber is barely cleared from the land before the soil is literally washed away down the steep side-hills, and the land spoiled for ever! Perhaps your land at "Redwood" is level, and only in danger of being worn out by the eternal round of cotton after cotton every year, which you cannot prevent, because you "have no time to haul large quantities of manure to the field." But I tell you that you do not need to haul manure; your land can be kept in good condition for ever by green crops plowed in, and by doing all your plowing twice as deep as you now do, which I venture to assert is not over two inches. If you think differently, I beg you to go into your fields unknown to the plowmen, and stick down a dozen pegs two inches below the surface, and then follow the plows and see how many they will plow up. If the present low price of cotton continues, it will drive you to cultivate other crops, which, if not otherwise profitable, will save your soil from utter prostration. I have seen as fine Cuba tobacco grown a hundred miles north of you, as ever grew upon that Island. As for the assertion that northern farmers would be as bad off as your southern farmers now are, I cannot agree to it. Look how they are renovating some of the worn-out lands of Virginia. When your present exhausting system of farming in Louisiana has ruined the land, and its present occupants, northern farmers will then come and grow rich, where the system of starving the soil has ruined the owners. These are facts, however useless it may be to write them to southerners. But I am glad to see that one planter, the writer of the article under review, is in a fair way to be benefited by reading the Agriculturist; and it is a great pity that many others could not be induced to follow his example in both reading and writing in agricultural papers.

*Removing Stains from Cloth.*—This is one of those plain, concise articles, that all grades of intellect can understand. It is the many such useful articles as this that gives great value to your paper. I like them.

*Yellows in Peach Trees.*—No doubt the cure is effectual. But I wish to know whether it would not also answer to cut them off even with the ground, and then the roots will sprout up and make new trees?

*Management of Honey Bees.*—I have only one remark to make upon this article. Mr. Miner condemns bee-houses *in toto* This is so contrary to old custom that I cannot at once agree to it. My bee-house is simply for the purpose of sheltering the hives from sun and storm, and I have never experienced the difficulties mentioned. But if Mr. Miner's plan of hanging up hives in the open air is best, it certainly is cheapest. But pray, Mr. M., do your hives never warp and crack, and leak water; and is the sun not too hot without any shade whatever? Let us hear further from you on this point, and in a more serious mood.

*Sowing Machine.*—For seeding, I prefer Pennock's, for that plants and covers; but this may do well for spreading plaster, &c., which that would not. But this costs too much, and I think it can be simplified and cheapened. Construct the upper roller in the figure so as to serve for the axle, and by being made fast in the hubs of common wagon wheels, revolve with them. Geer from the axle direct into the cylinder. Have a revolving band on the centre of the axle, to which the coupling rod can be attached, and then the whole of the sowing apparatus can be attached to a common wagon, and not cost over $20. If the present machine is patented, my improvement is not; so all creation may use it if they like. There is no doubt, in my mind, about the feasibility of the alteration.

*Colic in Horses.*—The recipe is very good, but the difficulty is to know whether the complaint is colic. I have seen a good many horses die with a complaint that appeared like colic, which no medicine on earth could cure after the horse showed symptoms similar to colic. The directions for prevention are therefore the most valuable of the two.

*The Superior Corn Bread,* found at Bement's Hotel, I have eaten there, and endorse "good;" but I have eaten the superior of it made in a southern negro cabin, with meal and water only, thoroughly worked into stiff dough and palatably salted, then laid between two cabbage leaves and buried like a potato to roast in the hot embers of a wood fire. Such corn bread is good—cheap—easily made—*but never grind the meal fine.* This is where the English will fail—they talk of "flour of Indian corn;" that spoils it most surely.

*Succotash.*—All right Mr. Farmer and Gardener Hope all your readers have got the pork, and will follow your plain directions to cook this excellent dish, which is often spoilt in making.

*Adulteration of Milk.*—There is but one way that I can see which will be likely to secure us pure milk in the city of New York; and that is, by establishing an extensive milk company under the surveillance of the police, subject to a forfeiture of their privileges if ever found selling adulterated milk. Having a large number of regular customers, it will be the interest of the company to sell nothing but pure milk, and certainly the interest of purchasers to buy from no other source This combination would brush down dishonest dealers. The subject is worthy of further thought and discussion.

*Wheat in Georgia.*—I am well aware that good wheat crops can be *grown* in all the Southern States; but I wish to inquire of Mr. Terrell, how the grain can be preserved from the destruction of the weevil, which so infest all the country south of latitude 37° or 38°, that I have ever visited? If they do not infest Georgia, and wheat can be *profitably* grown there for " 37½ cents a bushel," it is cheaper than it can be grown upon the boasted prairie lands of the West, maugre a late article in the New York Journal of Commerce, asserting that it can be grown for 16 cents! Mr. Terrell is an observing and interesting correspondent; but I would recommend to him to take great care that his observations made while travelling by railroad, are not erroneous. We have too many railroad travellers' publications now-a-days. His observation upon the true policy of the South to raise her own provisions, is worthy of all credit, and should be much more generally practised. But when that becomes the case, several of the North-western States will feel the loss of *a home market*, and at the same time learn that they have no *foreign* one. [Dear Reviewer, don't be so certain of that *fact*, otherwise we fear we shall be obliged to suspect you as one of the Editors of the New York Tribune.]

*Drovers' Dogs.*—This cut is not quite " as clear as mud," though somewhat muddy; for to us unlearnt in dogology, we are not able to distinguish " Boxer" from " Rose," and therefore it is not so interesting as

*Domestic Fish-Ponds*, with its clear, beautiful illustrations, and very lucid description, by an excellent writer, whose new work upon the " Trees of America," I will read with pleasure, whenever the author sends me a copy. [You shall have one *gratis*, if we have to send it ourselves.]

*Practical Facts about Pork and Bacon.*—This is from a prolific pen, from whence flow a great many practical facts upon a great many interesting subjects, and upon this one he writes exactly as though " he was brought up among the hogs." That this article is an interesting one, is proved by the fact that it is " taking the round of the papers."

*How to Destroy the Canada Thistle.*—This is all very good doctrine; but how are you to induce " *every man to weed on his own side of the fence?*" Weeds in fence corners, is another of the evils of our wretched system of fencing, which has not been sufficiently adverted to by the advocates of cultivating land without fence. And until that day of wisdom arrives, I, for one, despair of ridding the land of this troublesome weed, as well as many other of the evils of the system of compelling one man to fence against everybody else's cattle. Be assured, " old farmer," that although you may " chisel" out the thistle, a thousand others will not; and " faith without works" will never rid the country of the Canada thistle, any more than in the negro's sermon it could make " de hog a gemman in de parler."

*Imported Cattle.*—I have said my say in remarks upon Mr. Bement's communication. Mr. Vail is a very enterprising friend of improvement, and has a beautiful herd of cattle; but suppose you admit similar articles from all the eminent stock-breeders in the country, including pedigrees, would it be interesting to the great majority of your readers? The half-dozen lines in your August No., with the addition of the importer's name, is all the space that should, in justice to your paying readers, have been occupied by this subject.

*Private Agricultural Schools.*—Well, if you " cannot agree with Reviewer," we will not quarrel. Your politics, which you proclaim in this article, are so different from mine, that it will probably be useless for us to attempt to " hitch our horses together." I believe the object of all governments should be to foster the interests of the people governed; and to collect and concentrate resources to accomplish great works, for great good, by a great combined effort of the whole people, through the agency of the rulers acting as managers for all the individuals, that no one individual can do. And I do not consider myself a bad citizen, though you do, because I advocate this " plain political axiom." But while you deprecate all governmental endowments of schools, why do you advocate " an annual appropriation for the collecting of materials and sending forth substantial public documents, containing real information to the agricultural community in regard to their business." The late bundle of trash from the Patent Office, I suppose you consider a substantial document of the class you wish to patronize. Verily, friend, thou art inconsistent, and I fear somewhat agrarianish in thy principles. At all events, thou art not well versed in true political economy. " Let us have no national school," you say. Then let us have no national monopoly of the public domain, which instead of converting the proceeds into schools, and roads, and harbors, for the benefit of those who pay their money for them, have diverted every dollar so wrung from the hard toil of the poor pioneer in the forest, for the cut-throat purpose of " glorious war," upon a defenceless people, to gain more territory to devote again to the same purpose. But this is not, I suppose, in your opinion, " beyond the proper sphere" of government.

*Dr. Philips' Reply to Reviewer*, is an interesting article, and I feel pleased to think that I have been the cause of drawing him out so fully. Still, he might have written more lengthily upon the several inquiries made, with equal interest. I am sorry to think from the closing paragraph of the Doctor's letter, that perhaps he thought my remarks were too much in a vein of ridicule, for an entire stranger to indulge in. But the truth is, he is no stranger to me, and I know he loves a joke and would laugh heartily now if he could " ferret me out," and learn how I know that peas " have a haulm."

*Gardening, No. 7*, should never have been thus entitled; for, although an interesting article upon geological science, it has not one word upon the science of gardening. "In uncultivated grounds, soils occupy only a few inches in depth of the surface," is an old theory that may be true in Europe when it was first written, but it is not so when applied to millions of acres of American soil; which, in some of the western states, is deeper than the plow ever runs. I do not believe that "every gardener or farmer who know the sorts of plants naturally produced upon a soil," would be able to determine its value for cultivation. I recollect being told many years ago in Michigan, while "land hunting," that wherever I found the burr oak, I should find warm, rich, sandy land; and yet, in truth, I found it afterwards growing upon poor, cold, hard, clayey land. So "these plants are not absolutely to be depended upon;" in fact, only in extreme cases, not to be depended upon at all.

*Wool-growing in Western New York.*—I like this kind of articles. In reviewing it I wish to ask Mr. Peters a few questions, which I am sure he will answer freely, to make his statements more plain to some of us dull-brained city dwellers. You state that we can buy farms at $10 or $12 per acre, that will carry "300 sheep to every 100 acres of *cleared* land;" but do you in the cost make allowance for woodland? Would not that be included in the price, and, of course, add to the capital? And, again, you allow no chance whatever for a poor man, or one even with $3,000 or $4,000, to engage in wool-growing in western New York. Must all of that class be driven to the prairies of the west? Now, it appears to me, if no man with a less capital than $14,000 can profitably engage in the business, that very few will undertake it without a better show of figures than yours. The truth is, that the capitalist can make "11 per cent." so much more certain and easy, that he will not engage in the laborious business of a sheep farm, without a prospect of much larger profits. Will twelve tons (and what kind) of hay without grain, winter 100 sheep? Is 20 acres of pasture, on an average, not a small allowance? Do you pasture meadow and grain fall or spring?

*Feeding Large Do[illegible]in Town.*—If with the first feed described, you will give nineteen twentieths of these dogs, each a sixpence worth of strychnine, it will save much future expense, and add greatly to the comfort of many thousand citizens, and still leave all the dogs that can be of any possible advantage to their owners or anybody else—dogs included!

*Ladies' Department.*—Not a word to say. I dare not look under that—what-d'ye-call-it? and I cannot see the beauty of the thing unless I do. So I will pass on to the

*Chapter on Grasses*, which is well calculated to give correct information to the boys. But, pray tell me, which is the real Kentucky "blue grass," *Poa pratensis* or *Poa compressa?* [Botanists have decided *Poa pratensis.*] What is called blue grass in New York is a different grass from that which is so called in Kentucky. If "E. L." will write an article giving a plain description of each kind of hay and pasture grass—when sown—growth—size—duration—use, &c., and the editor will illustrate with cuts [we will do it], it will be a very valuable article for the Boys' Department of this paper. I think that the distillation of spirit from the seeds of several of the *true grasses*, as well as from the juice of the sugar-cane grass, is no less "*useful*" than the production of hay, bread, beef, pork, paper, hats, mats, bags, and ladies' bonnets, all of which are made of the "grass of the field that perisheth." And yet I am a strict temperance man. But I know that distilled spirit is one of the blessings of civilisation, and for many purposes not only *useful*, but almost, perhaps wholly, indispensable. How dreadfully is this good gift abused!

*Boys, be Kind to Domestic Animals.*—I could write a long sermon from this text; but when done it would not comprehend more meaning than those six short words. Let me but learn the natural disposition of a boy to be cruel to domestic animals, and I will paint his horoscope most truly; but it shall be an unenviable picture for him to look upon. Very likely the prison and gallows will form the end of the view. No trait in a child's character is more displeasing to me. No nation of people, except some of the very lowest grades of African barbarians, attempts to live without the use of domestic animals. Let them ever be treated kindly in all respects.

*Foreign Agricultural News.*—Here I find an article from the Gardener's Chronicle, upon the subject of substituting other seed wheat, with a view of shortening the growing season, and consequently bringing on the harvest in summer instead of autumn. I should like to know what is the reason our winter wheat cannot be grown in England, and whether the experiment has been thoroughly tried with seed from this country? In this country, our seeding is done before the harvesting in England. What they call spring wheat there, which I believe is usually sown in February, when brought here, becomes winter wheat, and must be sown in autumn to perfect its seed.

*Pulling Flax.*—The directions will answer as well for this country as England. But there is so much labor attached to growing and preparing flax for the spinner, that other crops will usually be found more profitable here than flax, except when grown exclusively for seed, and then it need not be pulled.

*Making Rhubarb* (pie plant) *Wine*, or preserving it, I cannot see the object of here where we have so many other better things.

*Bones Dissolved in Caustic Ley.*—It seems curious that it should be necessary to publish this fact, known to every "old woman" who ever made soap, and much more curious that it should have ever been the subject of a patent. But that was in England, where one is restrained by an excise law from making his own soap out of his own bones, grease, and ashes.

*The Potato Disease.*—The remarks upon this go to prove to my mind, that the cause of this lamentable malady lies beyond the reach of all human skill; and I fear it is destiny that we shall no longer depend upon this crop as a means of sustaining animal life. I sincerely hope that my presentiments will prove false. I cannot read an article upon the subject without having vivid pictures of human suffering presented to my mind.

*The Editor's Table* is not as sumptuously furnished this month as usual, and so we can the sooner pass over it.

*Results of Hydropathy* seems to be the most tempting dish to a cold water man. This is undoubtedly a good curative system; but like a great many other new systems, it claims too much—so much, in fact, that the whole is pronounced a humbug. I have myself experienced relief from a medicinal application of cold water upon the spine, for neuralgia; but it is far from infallible. Your recommendations of ablution as a *preventive*, ought to be rigidly practised, and although I doubt its effect to drive away " nine-tenths of the diseases" of the human family, it might affect one-tenth, and would be so much clear gain.

*Life in Prairie Land.*—As you say the fair authoress is an acquaintance of yours, and as you are a bachelor, I am somewhat afraid to trust to your recommendation without an endorser. If you had told us whether the lady had been an actual dweller [she was] in the land she describes, we could have formed a better judgment of her ability to describe the wild scenery of that wild country.

*French Cookery.*—There is decidedly too much of it already in this country for the health of the people. It is a poor book to recommend to " plain farmers." Better publish the manner of cooking, and style of living in New England, when your worthy father was a youth there.

*The Trees of America.*—I really hope this is just what it should be, for upon no subject was a good standard work more needed. Your remark that " the engravings are executed with considerable skill," is such faint praise, that I am induced to think they are not what they should be. [They are very neatly and accurately done.] It is one of the great beauties of Michaux's work upon the same subject, that the engravings are superb. If by some means the public mind of America cannot be induced to preserve and cultivate forest trees, the day is not far distant when we shall be as destitute of timber as many parts of Europe, where the want of it is distressing. I suppose I must not say it should be the duty of the United States government to plant and use groves of timber upon the vast tracts of western prairie land, lest some politician should tell me that " that was not the *legitimate* business of government," but " should be left to individuals," and therefore never accomplished.

*Review of the Market.*—There are two or three facts in this of so much importance that I cannot close my review without calling the serious attention of American cultivators to their importance. Wheat in this market, the last of August, is worth 1½ to 1¾ cents per pound; manufactured into flour, only about 2 cents per pound. Rye is one cent per pound, and corn a little less. Sugar averages about 6 cents per pound, while *mustard* is from 16 to 31 cents per pound. Now is it possible that any farmer can grow and pay freight upon, to send to market, 16 or 20 lbs. of wheat at the same price as one of mustard, or that he can manufacture and send to market 12 lbs. of wheat flour, for which he gets no more money than for one of mustard? Or can the planter send 4 lbs. of sugar to pay for 1 lb of mustard? A crop of mustard can be grown and sent to market as cheap as a crop of timothy seed, and yet that is quoted at an average of about 3 cents per pound. Again, 6 lbs. of hops will bring as much as 60 lbs. of wheat; and 1 lb. of hops can be exchanged for 2½ or 3 lbs. of sugar. As hops will grow wherever corn will, is it worth while for Northern farmers to undertake to compete with corn sugar against the southern cane? If you cannot afford to exchange flour, you can mustard and hops. It is singular, too, if beans and peas, particularly the latter, cannot be grown as cheap as wheat; yet they are quoted 50 per cent. higher. Again, sumac is quoted at about four-fifths the price of tobacco, and yet it does not require so rich a soil, nor one-tenth the labor of tobacco. It is also worth more by the pound than wheat. There are certainly great inconsistencies in these prices, which must wholly arise from the neglect of those who are the most interested, as to what is the most profitable crop for them to cultivate. **Reviewer.**

## THE CORN CROP.

Indian corn will soon be among our largest exports; anything, therefore, which may tend to cheapen its production, and facilitate getting it either to a home or foreign market, will be adding so much to the wealth of the country. At present prices, all acknowledge it to be a very profitable crop to the Western farmer, when proper attention is bestowed upon the culture; we can show it to be equally so in New York, and even sterile New England.

No farmer should think of planting corn on land that is not in a condition to yield him at least thirty bushels to the acre, and fifty bushels would be still more profitable. If his land cannot produce this, he had better cultivate it in some other crop till it can. If it yields forty to fifty bushels per acre, under an ordinary rotation, the stalks in the Northern States will pay all expenses of cultivation, leaving the corn a clear profit, after deducting the interest of the money on the land. In this case we assume that the stalks are cut up close to the ground, with the corn on—then properly cured—and that they are prepared by the cutting machine before feeding them out to the stock. Many sound, practical farmers, contend that, cured and prepared in this way, a good quality of corn stalks is as valuable for cattle fodder as hay. On an average, we do not think so, but will put them down at half the present value of hay here —say five dollars per ton. Admitting that they average four tons per acre, well dried, their value would be twenty dollars, which is certainly more than the average cost of cultivating an acre of corn. Corn is now worth seventy-five cents per bushel in this market. Thirty bushels would be $22 50; fifty bushels, $37 50 per acre. Allowing $5 for rent of land, and a large profit would be left, unless one had been very extravagant in the purchase of manure; and even in this case, not more than one-third, or one-half, should be charged to the corn crop, as much of its fertility would be still remaining in the ground for the succeeding crops.

The above is merely our calculation, and we admit that it is a favorable one for the corn, as nothing is allowed for injuries by the frost, worms, storms, &c. Still, we think thirty bushels per acre is easily attainable on an average of years, throughout the country. If any of our readers can make it out less or more, we shall be glad to be favored with their calculations, and put them on record in our pages.

# Ladies' Department.

## THE LIFE OF A FARMER'S DAUGHTER ALIKE PHYSICALLY AND MENTALLY USEFUL.

Why how is this, my dear Mr. Allen—two numbers of the Agriculturist, and the *Ladies' Department* without an original paper? Such a thing has not happened before since January, 1845, when you first announced your intention of re-opening (in connection with the *Boys' Department*) these rather novel features in an agricultural journal. What has become of your sometime indefatigable correspondent, "E. S.?" Do pray, tell her, we cannot do without her.

I hope the remarks of "Reviewer" have not paralyzed the pens of the sex; for, though not remarkable for courage, they surely would not be alarmed at the innocent notices of one holding the thankless office of a critic. They must remember that it is his province to decry everything that does not suit his peculiar fancies, and *seem*, at least, to despise all opinions but his own, and they certainly would not quarrel with a man for performing strictly the duties his calling may impose upon him. By the by, I wonder if it would be possible for any one to sit down and write a candid, impartial review of an article or articles, unbiased by his own prejudices, unswayed by any tenets but those of peace and good-will; without sneering at practices different from those he has been accustomed to, or turning things into ridicule because he does not understand them. I wish some one would try, if only for the novelty of the thing. To be sure, the tone of a person's mind will give a coloring to his expressions, and he must have his own particular thoughts about matters; but unfortunately in the trade of reviewing, there is too often some purpose to serve, which obliges the critic to lay aside justice, so that we generally have as much reason to suspect his praise as his blame. This, however, applies to reviewers in general; not to ours in particular, to whom it is to be hoped these remarks do not apply.

I do not know how it may be with some others of the sisterhood, but for my part, I would quite as soon hear the sex called "too effeminate and dyspeptic, and ridiculously full of affectation of delicacy," as be sickened with appellations of "the pretty dears," "sweet creatures," and "angelic beings," which some writers are so profuse in using. While the one only savors somewhat strongly of individual pique, the others are better befitting the sentimental heroine of a love-sick novel, than an intelligent flesh and blood woman. It seems, too, that American ladies need reforming mentally and physically. Now I do not know the latitude and longitude of our friend's locality, and therefore cannot even "guess" at the class of ladies forming his acquaintance, but he appears to be in an unfortunate situation somewhere, and the sooner he can get out of it the better.

Nevertheless, while there *is* need of a reformation, the hope arises that it has already commenced in some parts of the country, and we will not "wholly despair" that farmers' daughters may yet return to a life alike physically and mentally useful. Ten years ago, the physical only was thought of in their education. They could spin and knit, weave and braid, wash and scrub, and when not carried to excess, the labor was most beneficial for the body. But alas! the poor mind. Out-stripped and despised by its robust companion, it was dieted like a feeble child, till it found its sole nourishment in the scandals of a gossipping neighborhood. When awakened to the magnitude of this error, they ran into an opposite extreme, and the mental alone was cared for; living languages and dead, philosophy and mathematics, *ologies* and the fine arts were crammed into their heads, till much learning had well nigh "made them mad," while, in the meantime, the body was left to consume in indolence, like the mind before. They have not found an equilibrium yet, but the prospect is brighter, though it is difficult to determine which out of the two evils is the least. It is sad to see a bright and vigorous intellect joined to a feeble, wasting body; but it is brute-like to mark a being full of life, and health, and animal strength, with the inner life glimmering only like the decaying embers, with the soul which likens us to the godlike, slumbering in a lethargy of ignorance, dead to its high calling, and its vast powers. We will hope, however, even in these days of "piano thumping," to see the proper medium attained, and American women, laying aside their dyspeptics and affectations, with healthful, exercised minds and bodies, taking a stand that shall place them at once above the reproach of the wise, and the sneers of the ignorant. E. M. C.

*Lynn, Oct.* 2, 1846.

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Polish Manner of Preserving Tomatos.—Boil water with as much salt in it as to give it an agreeable saltish taste, and let it stand till it is cold, then pour it over the tomatos, which should previously be freed from the green and all impurities, without breaking the skin, in a wide-mouthed glass bottle or jar, when they should be closely papered up and set in a tolerably cool place, such as a store room or pantry, but a cellar is not necessary. The tomatos should not be closely packed, but if possible allowed to swim about in the jar; and in this way they are preserved in Poland till they come again, always taking out a few when wanted, and covering the jar again.

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To Preserve the Bright Green Color of Vegetables, such as spinach, beans, peas, &c., put a small teaspoonful of salæratus to every half gallon of water in which they are to be boiled.

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A Drop or two of honey well rubbed on the hands while wet, after washing with soap, prevents chapping, and removes the roughness of the skin—it is particularly pleasant for children's hands and faces in cold weather.

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One pint bowl of common salt makes three quarts of brine strong enough to bear an egg, or float a potato, which is as good a test of its strength—this is a saturated solution.

## FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamer Acadia, we are in receipt of our foreign journals up to November 4th.

MARKETS.—*Ashes* steady. *Apples*, the best Newtown Pippins command from 30s. to 35s. per barrel, equal to $7,50 to $8,75. *Cotton* had fallen ⅛d. per lb. The high price of provisions has an injurious effect upon the article, and many of the manufacturers have resolved to work short time during the winter, which it was anticipated would reduce the consumption of this great staple fully one-fourth. Stock on hand at Liverpool on the 1st of November, 570,000 bales, against 922,000 same time last year. *Flour* had fallen 1s. per bbl. *Indian Meal* continued on the advance, and was in great demand. It was considered cheaper food for the poor than flour, and therefore preferred. *Beef*, a slight improvement. *Pork* dull, at a decline. *Lard*, 1s. to 2s. above last quotations. *Cheese* has fallen 4s. per cwt. The sales in this article were large. *Naval Stores* without change. *Rice* in fair request. *Tallow* an advance. *Tobacco* no change. *Wool* the same.

*Money* continues easy and abundant.

*Provisions* of all kinds were finding their way into Great Britain, France and Germany, in large quantities. This has quieted the fears of any want on the part of the people of these countries, and put an end to further speculations. The markets were gradually coming to a settled state, and although the demand for American produce promises to be large, it will not be greater than we can easily supply; we need, therefore, expect no further advance in our products, but rather a slight depression in their prices during the winter months.

*Paulownia Imperialis.*—This is a highly ornamental tree, which has not been fully estimated in this country. It appears that for the first year or two, when planted in congenial soil, it grows most vigorously, and continues its growth late in autumn. The shoots, from their extraordinary grossness, are not properly ripened, and consequently get killed back to the harder parts in winter. I have plants at this moment with leaves 20 inches across, and shoots of the current year's growth 6 feet long. I was informed that when first planted in the Garden of Plants at Paris, it grew away in the same robust manner. This is not, however, now the case; the original tree which first flowered there is 30 feet high, the branches are about 20 feet in diameter, with a clean stem 3 feet in circumference. The leaves now upon this tree are about the size of those of the Catalpa, and the shoots scarcely exceeding a foot in length, which of course ripen perfectly. This is (October) covered with a complete mass of incipient blossoms, which do not expand until next spring, when the tree exhibits an inconceivable picture of beauty. It is a remarkable fact that this tree only flowers in alternate years, when it ripens an abundance of seed. What an admirable subject this is for shrubberies and general ornamental planting, both as regards its foliage and flowers, and may well be pointed out as an object deserving the attention of planters. —*Gardener's Chronicle.* [This splendid tree is perfectly hardy in the neighborhood of New York, and it is said that there is a specimen somewhere on the Hudson that has made shoots the present year *eighteen* feet in length!! This species was first introduced into the United States in 1842, by Messrs. Parsons & Co., of Flushing, who have a tree containing flower-buds in an incipient state, which may be expected to put forth some time next May.]

*Influence of the Moon on Vegetation in Columbia.*—In this country trees and plants during the increase of the moon are full of sap, at the decrease the sap descends. This is so well established a fact, that timber felled at the increase is useless, rotting immediately. I have myself seen in the Cauca the great bamboo, called Guadua, whose joints supply the purest water in the first quarter of the moon, perfectly dry after the full moon. Does this singular fact lead us to suppose that Nature intends it as a sort of repose for the vegetating process where winters are unknown? —*Ibid.*

*To Hatch Eggs.*—It has been generally supposed that heat is all that is necessary to incubation, and that placing eggs in an oven which could be kept heated at a moderate and even temperature, eggs might be hatched to any extent. This was the plan adopted at the Eccaleobion, exhibited in London some few years since, but which, from the uncertainty of its operations, and the small per centage of chickens hatched to the number of eggs destroyed, rendered the machine useless, except as a mere exhibition. Many men of science and writers of books have also stated, for years past, that they have succeeded in hatching by artificial means; but when the system is examined, it will be found that all their attempts for practical purposes have been useless, and therefore abandoned.—*Ib.*

*Bones Dissolved in Sulphuric Acid.*—I applied them as manure to strawberry plants in pots for forcing, and from the appearance of the plants I am satisfied it is one of the very best manures for this fruit, and worthy of extensive trial. I have tried the effect of various manures on the strawberry, but never had plants near so good as I have them this season.

*Salt a Manure for Potatoes.*—I have heard of several instances of sound potatoes being grown where the land was previously dressed with salt, and one very striking instance has come within my own knowledge. I am satisfied that all light soils that have borne diseased potatoes this year, or that are intended for planting potatoes next spring, should be dressed with from 10 to 15 cwt. to the acre, applied half now, and half in the spring. This application is simple and cheap, and, at all events, can do no harm.—*Ib.*

*Salt a Preventive of the Potato Disease.*—A very intelligent laboring man, who cultivates about 4 acres of land, informs me that he this year tried the effect of soot and of salt on small portions of his potato crop. The potatoes were planted in drills, and manure from the pigsties was laid over the sets. In two of the rows soot was sprinkled, in small quantities, over the sets, before the manure was laid on. In three other rows salt was similarly applied. When the potatoes were got up, a short time since, only two or three were found diseased where the soot had been applied, and none at all where the salt had been used. Those to which nothing had been applied, except the manure, contained a large proportion of diseased potatoes. The soil on which this experiment was tried was light and gravelly.—*Ib.*

*Professor Schonbein's Gun Cotton.*—A short time since, an experimental trial took place in the proof square of the Royal Arsenal, Woolwich, with the newly-invented gun cotton of Professor Schonbein, of Basle. The result of the experiment was highly satisfactory, and has led to an order for the Professor to manufacture a larger quantity, with which experiments will take place with heavy ordnance, in the presence of the select committee. Those who witnessed the firing of a rifle in the proof square, which was fired with a minimum charge of the cotton by Lieut-Colonel Dundas, state that there was no report, no smoke, no recoil, and scarcely any residuum in the breech of the gun; in fact they were not aware of the gun having been fired till the effects of the ball were seen.—*Ib.*

# Editor's Table.

Etchings of a Whaling Cruise. With Notes of a Sojourn on the Island of Zanzibar; to which is appended a Brief History of the Whale Fishery. By J. Ross Browne. Illustrated by Numerous Engravings on steel and wood. New York: Harper & Brothers. Pp 580. Large octavo. Price $2.00. The author of this work appears to be endowed with respectable talents. and a refined education; and, like many other young men, with an inherent desire to see the world, was induced to undertake a cruise in a whale-ship. In submitting his narrative to the public, he says that he was actuated mainly by a desire to make his experience as useful to others as it has been to himself; and, by a faithful account of the service in which he spent so eventful a period of life, to show in what manner the degraded condition of a portion of our fellow-creatures can be ameliorated. The startling increase of crime in the whale-fishery demands a remedy. Scarcely a whaler arrives in port that does not bring intelligence of mutiny. Are the murderous wrongs which compel men to rise up and throw off oppression, unworthy of notice? Will none make the attempt to arrest the fearful progress? Such a state of things surely calls for investigation. The work in question is undoubtedly a faithful and graphic delineation of the whaling service, and the thanks of every true philanthropist we think are due both to the publishers and to Mr. Browne, for their noble exertions in behalf of the suffering and too often oppressed mariner.

Norman's Southern Agricultural Almanac, for 1847. Edited by Thomas Affleck. Devoted exclusively to the interest of the South. New Orleans: B. M. Norman. Pp. 86. An almanac is indispensable to every one. But when, in addition to its calendar, eclipses, &c., it contains a large amount of information suited to the farmer, the planter, the merchant, the manufacturer, and others, forming a work of constant reference in the way of business, its value and usefulness are greatly increased. Such we consider the present publication to be, a proof of which is manifested by 48 of its pages being filled by the advertisements of a large number of the business men of the South and West. The work is handsomely embellished, and is to be enlarged in future, and annually continued.

A Treatise on Algebra, containing the latest improvements, adapted to the use of Schools and Colleges. By Charles W. Hackley. Harper & Brothers. Pp. 503, octavo. Price $1.50. This is a valuable addition to the many choice elementary works now in use among American students, embodying the latest improvements in the arrangement and classification of the science to the present time, from the best sources from abroad. Without attempting originality, the author has succeeded in incorporating much that is new to the American student, from the French, German, and English works on this subject; and he has thus given additional facilities for acquiring this important branch of a mathematical education. The work is well printed in clear type, and upon good paper, an important consideration to the student.

The Tennessee Farmer and Horticulturist. Edited by Charles Foster, Nashville, Tenn. We have received the third number of a Journal of the above-named title, devoted to the improvement of Agriculture, Horticulture, the Mechanic Arts, and the promotion of Domestic Industry. It contains 24 octavo pages, and is published monthly at $1 a year.

Introduction of the Cultivation of Rice into France.—The design has been formed of introducing the culture of rice into the delta of the Rhone. According to experiments made on a surface of 25 hectares (61¾ acres), the rice plant promises a plentiful yield of about 50 per cent. In the sitting of the Scientific Congress, at Marseilles, on the 9th ult., a calculation was presented, according to which, above 20,000 hectares (49,422 acres) of the salt lands at the mouths of the Rhone, and which is capable of being flooded, could be turned into rice fields. The whole area, at an average of 50f. per hectare, is now scarcely worth 2,000,000f.; while if rice were grown upon it, it would be worth 3,000f. per hectare (the hectare is a trifle less than 2½ acres); and thus the landed property of the department would be increased in value by 120,000,000f., and even 300,000,000f., if this branch of agriculture were also introduced into the neighboring departments.

Agricultural Statistics of New York.—The following statistics of agriculture are furnished by the Marshals employed to take the census of 1845:—

| | |
|---|---|
| Acres of improved land in the State | 11,767,276 |
| " barley under cultivation | 192,503 |
| Bushels of barley raised | 3,108,704 |
| Acres of peas under cultivation | 117,379 |
| Bushels of peas raised | 1,761,503 |
| Acres of rye sown | 317,099 |
| Bushels of rye harvested | 2,966,322 |
| Acres of oats sown | 1,026,915 |
| Bushels of oats harvested | 26,323,051 |
| Acres of beans under cultivation | 16,231 |
| Bushels of beans raised | 162,187 |
| Acres of buckwheat under cultivation | 255,495 |
| Bushels of buckwheat raised | 3,634,679 |
| Acres of turnips under cultivation | 15,322 |
| Bushels of turnips raised | 1,350,332 |
| Acres of potatoes under cultivation | 255,762 |
| Bushels of potatoes raised | 23,653,418 |
| Acres of flax under cultivation | 46,089 |
| Pounds of flax raised | 2,897,062 |
| Acres of wheat sown | 1,013,655 |
| " wheat harvested | 958,233 |
| Bushels of wheat raised | 13,391,770 |
| Acres of corn sown | 595,134 |
| Bushels of corn harvested | 14,722,114 |

Charcoal a Remedy for the Potato Disease.—Almost everything has been tried to *cure* the potato rot, but with little or no success; and the impression seems to be general that the *murphy will* rot, no matter what is done.

The application of charcoal has recently been recommended, and in a few instances a trial has been given it, that has been successful. The following facts would seem to show that it sometimes answers as a remedy.

Mr. N. Green, of Forestburgh, Sullivan county, planted, last spring, three rows of potatoes side by side. To one row he applied, at planting, charcoal; to another, ashes; and to the third, lime. When the potatoes were dug, *there was not a rotten potato in the hills in which charcoal had been put; while all the others were more or less rotten.*

Mr. John M. Towner, of Monticello, last year applied charcoal, and his potatoes were all sound, and of a superior quality. This year he put it in but a few hills, which were not affected, while there was hardly a sound potato in the others.

Mr. Harvey Hamilton, of this town, has kept potatoes a whole year, with charcoal. They did not sprout nor wilt.

Half-rotten potatoes have been put in powdered charcoal. In two weeks, the rotten part was found black and dry.

These facts are interesting, and may lead to important results. They are published for what they are worth, the writer hoping that others may be induced to give charcoal a trial.—*Monticello (Vt.) Watchman.*

## REVIEW OF THE MARKET.

### PRICES CURRENT IN NEW YORK, NOVEMBER 23, 1846.

| | | | | |
|---|---|---|---|---|
| ASHES, Pots, | per 100 lbs. | $5 00 | to | $5 12 |
| Pearls, | do. | 5 75 | " | 5 81 |
| BALE ROPE, | lb. | 5 | " | 7 |
| BARK, Quercitron, | ton, | 26 00 | " | 27 00 |
| BEANS, White, | bush. | 1 12 | " | 1 25 |
| BEESWAX, Am. Yellow, | lb. | 26 | " | 30 |
| BOLT ROPE, | do. | 12 | " | 13 |
| BONES, ground, | bush. | 40 | " | 55 |
| BRISTLES, American, | lb. | 25 | " | 65 |
| BUTTER, Table, | do. | 16 | " | 25 |
| Shipping, | do. | 9 | " | 13 |
| CANDLES, Mould, Tallow, | do. | 9 | " | 11 |
| Sperm, | do. | 25 | " | 38 |
| Stearic, | do. | 20 | " | 25 |
| CHEESE, | do. | 5 | " | 10 |
| COAL, Anthracite, | 2000 lbs. | 6 00 | " | 7 00 |
| CORDAGE, American, | lb. | 11 | " | 12 |
| COTTON, | do. | 7 | " | 12 |
| COTTON BAGGING, Amer hemp, | yard, | 13 | " | 14 |
| Kentucky, | do. | 11 | " | 12 |
| FEATHERS, | lb. | 25 | " | 34 |
| FLAX, American, | do. | 7 | " | 8 |
| FLOUR, Northern and Western, | bbl. | 5 25 | " | 5 50 |
| Fancy, | do. | 6 00 | " | 6 50 |
| Southern, | do. | 5 25 | " | 5 50 |
| Richmond City Mills, | do. | 7 00 | " | 7 25 |
| Rye, | do. | 3 75 | " | 4 00 |
| GRAIN—Wheat, Western, | bush. | 1 05 | " | 1 20 |
| Southern | do. | 1 00 | " | 1 10 |
| Rye, | do. | 75 | " | 80 |
| Corn, Northern, | do. | 78 | " | 80 |
| Southern, | do. | 73 | " | 75 |
| Barley, | do. | 61 | " | 63 |
| Oats, Northern, | do. | 35 | " | 37 |
| Southern, | do. | 30 | " | 33 |
| GUANO, | do. | 2 00 | " | 3 00 |
| HAY, in bales, | 100 lbs. | 40 | " | 45 |
| HEMP, Russia, clean, | ton. | 200 00 | " | 210 00 |
| American, water-rotted, | do. | 105 00 | " | 185 00 |
| American, dew-rotted, | do. | 75 00 | " | 125 00 |
| HIDES, Dry Southern, | do. | 7 | " | 8½ |
| HOPS, | lb. | 9 | " | 12 |
| HORNS, | 100. | 1 00 | " | 7 00 |
| LEAD, pig, | do. | 4 45 | " | 4 50 |
| Sheet and bar, | lb. | 4 | " | 5 |
| MEAL, Corn, | bbl. | 3 75 | " | 4 00 |
| Corn, | hhd. | 17 75 | " | 18 00 |
| MOLASSES, New Orleans, | gal. | 28 | " | 32 |
| MUSTARD, American, | lb. | 16 | " | 31 |
| NAVAL STORES—Tar, | bbl. | 2 00 | " | 2 25 |
| Pitch, | do | 1 00 | " | 1 06 |
| Rosin, | do. | 55 | " | 65 |
| Turpentine, | do. | 3 50 | " | 3 56 |
| Spirits Turpentine, Southern, | gal. | 55 | " | 60 |
| OIL, Linseed, American, | do. | 60 | " | 63 |
| Castor, | do. | 55 | " | 70 |
| Lard, | do. | 65 | " | 70 |
| OIL CAKE, | 100 lbs. | 1 25 | " | 1 50 |
| PEAS, Field, | bush. | 1 25 | " | 1 50 |
| PLASTER OF PARIS, | ton. | 2 25 | " | 3 00 |
| Ground, in bbls. | of 300 lbs. | 1 12 | " | 1 25 |
| PROVISIONS—Beef, Mess, | bbl. | 7 00 | " | 9 00 |
| Prime, | do. | 5 75 | " | 6 75 |
| Smoked, | lb. | 6 | " | 9 |
| Rounds, in pickle, | do. | 4 | " | 6 |
| Pork, Mess, | bbl. | 9 50 | " | 12 00 |
| Prime, | do. | 7 88 | " | 9 25 |
| Lard, | lb. | 7 | " | 8 |
| Bacon sides, Smoked, | do. | 4 | " | 5 |
| In pickle, | do. | 4 | " | 5 |
| Hams, Smoked, | do. | 6 | " | 10 |
| Pickled, | do. | 5 | " | 8 |
| Shoulders, Smoked, | do. | 5 | " | 6 |
| Pickled, | do. | 4½ | " | 5 |
| RICE, | 100 lbs. | 3 75 | " | 4 75 |
| SALT, | sack, | 1 28 | " | 1 38 |
| Common, | bush. | 20 | " | 35 |
| SEEDS—Clover, | lb. | 6 | " | 9 |
| Timothy, | 7 bush. | 11 00 | " | 20 00 |
| Flax, clean | do. | 10 25 | " | 11 25 |
| rough, | do. | 9 25 | " | 9 50 |
| SODA, Ash, cont'g 80 per cent. soda, | lb. | 3 | " | 3 |
| Sulphate Soda, ground, | do. | 1 | " | — |
| SUGAR, New Orleans, | do. | 7 | " | 9 |
| SUMAC, American, | ton, | 35 00 | " | 37 50 |
| TALLOW, | lb. | 8 | " | 9 |
| TOBACCO, | do. | 2 | " | 7 |
| WHISKEY, American, | gal. | 22 | " | 23 |
| WOOLS, Saxony, | lb. | 35 | " | 60 |
| Merino, | do. | 25 | " | 30 |
| Half blood | do. | 20 | " | 25 |
| Common do | | 18 | " | 20 |

REMARKS.—*Ashes* since our last have advanced 50 cents. *Coal* $1. *Flour* has fallen from 50 to 63 cents. *Wheat* 10 cents. *Corn*, *Barley*, and *Oats*, have advanced a trifle. *Hay* has fallen 5 cents. *Hops* 1 to 3 cts. *Whiskey* 3 cts. Other things remain stationary, or so nearly so, as to require no notice. The fall in prices corresponds with those in Europe by our last advices, and may be considered beneficial upon the whole, to the farmers of the United States, as it will enable them to export much more largely than if prices ruled high.

*Money* is easy, but as Government is likely to want large sums, it is doubtful how long this state of things will continue. We advise the farmers to sell for cash, and buy for cash. Above all things keep clear of debt. Indebtedness is a great evil, and makes one a serf rather than an independent landholder.

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TO CORRESPONDENTS.—M., T. B. Miner, M. W. Philips, Winter & Co., John Parker, and Henry Ancrum, are received. A Young Farmer was anticipated by our own account of the Flushing Fair, which was in type previous to his article coming to hand, otherwise we should have been pleased to have given it an insertion.

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ACKNOWLEDGMENTS.—We are in receipt, and will notice in our next, of Chemical Essays relating to Agriculture, by E. N. Horsford; also Transactions of the American Agricultural Association.

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SAMPLES OF WOOL.—We are in receipt of some very choice samples of fine wool, from the excellent flock of Mr. Samuel Whitman, of West Hartford, Conn.

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STOCK FOR THE SOUTH.—We noticed some beautiful Devons, Southdown sheep, and Dorking fowls, shipped from this port for the Messrs. Jones, of Georgia. They were purchased of Mr. L. F. Allen, of Buffalo.

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NEW YORK AGRICULTURAL WAREHOUSE.

Just received a few of Bryan's celebrated Premium Fanning Mills. Price from $21 to $26.

Also a large supply of Sinclair's, Thorn's, Stevens', and Hovey's Stalk, Straw, and Hay Cutters. Price from $8 to $30.

Corn Shellers of all patterns, from $7 to $50.

Burr Stone Mills, of various patterns, from 12 to 36 inch stones. Price from $25 to $100.

Improved Horse Powers, Ross's, Warren's, Trimble's, and Taplin's—Also Wheeler's celebrated Railway Power.

Threshers of different patterns, with or without Separators.

Pitt's and Sinclair's Corn and Cob Crushers. Price $30.

Corn Shellers, with Mill attached for grinding. Price $12.

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Ruggles, Nourse & Mason's celebrated Centre-draught Plows, of all patterns and sizes.

New York cheap Southern Plows, made up by Patent Machinery, of best White Oak timber, and first-rate quality of castings, consisting of the following patterns:—

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Nos. 18, 19, 20, 21, Miner & Horton's.

Castings for all the above, at very low prices.

Also Meyer's Improved Premium Bergen Plows, made up in a superior manner. A. B. ALLEN, 187 Water Street, N.Y.

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A choice, rich tract of land, of 640 acres, part of which is rolling prairie, and part well timbered, within half a mile of Albion, the county town of Edwards county, Illinois, is offered for sale or exchange for good property in this State. It is within ten miles of navigable waters, and a very healthy situation. For further particulars inquire (post-paid) of

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One pair of very fine dark bay horses, six years old, long tails, 15½ hands high. One pair light bay, seven years old, square tails, 16 hands high. One pair grey ponies, five years old, and several young single horses. For sale cheap.

Address C. JOHNSON, care of A. B. ALLEN, 187 Water St.

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IN PRESS,

Barlow's Hasty-Pudding, a Poem, together with a Memoir on the History, Mythology, Properties and Uses of Maize or Indian Corn. By D. J. Browne. Price 12½ cents.

W. H. GRAHAM, Tribune Buildings, New York.